GLEANINGS IN BEE CULTURE
DECEMBER, 1919

EDITORIAL

Emergency Winter Feeding.

THE EFFORTS on the part of Dr. E. F. Phillips of the Bureau of Entomology, Washington, D. C.; Geo. H. Rea of the same Bureau, with headquarters at Ithaca, N. Y., B. F. Kindig of East Lansing, Mich., President of the National Beekeepers' Association, and State Apiarist for Michigan; of other State apiarists, and last, but not least, of the American Bee Journal and Gleanings in Bee Culture—all these, have done not a little to supply the beekeepers with the needed sugar in the crisis that faced them last month. Geo. H. Rea was instrumental in distributing over 200,000 pounds of sugar for New York alone at a time when grocers were unable to obtain a single pound. B. F. Kindig and other State apiarists did their fair portion. Gleanings obtained two carloads which we have sold out to the beekeepers on the basis of cost. In spite of all this, many beekeepers were unable to obtain sugar—primarily because they did not take any bee journal or because they were not connected with any beekeepers' society.

There are hundreds of beekeepers all over the country whose bees faced starvation, but who, fortunately, were able to obtain half rations of sugar, or, better still, had a short fall flow of honey that supplied their colonies with winter food, but yet not enough to carry them thru the entire winter. We have had promises from all sides that there would be plenty of sugar available by Jan. 1—certainly by Feb. 1; but if some of these promises hold out no better than they did a year ago the beekeepers will still be calling for sugar.

At the present time we are advised by Geo. H. Rea that the Sugar Equalization Board of New York warns us that consumers are strongly protesting against furnishing sugar to beekeepers, on the allegation that beekeepers are selling honey at 40 cents a pound and yet feed a nine-cent sugar. While this may have been true in a very few cases on the part of small beekeepers, we know it is not true of the great mass of beekeepers. Moreover in many cases the beekeeper cannot give honey on account of the danger of disease.

Everybody is wanting sugar. The candy-makers are restricted to 50 per cent, and the beekeepers to 70 per cent of their normal requirements. Other industries have been curtailed in a similar way; but the bee industry differs from all of them from the fact that **for every pound of sugar given to the bees they return on the average, on a conservative estimate, 10 pounds of honey.** In many cases they will return more.

There have been various newspaper clippings to the effect that after Jan. 1 sugar will soar to 18, 19, and even 20 cents a pound, and it may do so. But very recently the Sugar Equalization Board has fixed the price of beet sugar at 10½ cents, and Louisiana sugar at a maximum of 17 in carlots. There has been some intimation that this Board is to be continued until December, 1920. No one seems to know. If Uncle Sam removes all restrictions, sugar will soar, and honey—well, that will go up too.

How to Feed During Cold Weather.

Assuming that sugar will be available by February, and before the bees run out entirely, some instructions should be given as to how to feed during midwinter. Where the colonies are in a cellar, thick liquid syrup can be given, but sparingly, and as little as possible; and if the bees have enough to last a couple of months they should not be fed until toward spring. The same rule should apply to outdoor bees. The less actual disturbance during midwinter the better, either indoors or out.

Let us suppose that John Jones was expecting a fall flow that did not materialize, as is the case with a good many. Unlike the case mentioned in preceding paragraph Jones' bees have enough to carry them thru to January. We will suppose he is able to get sugar after that date. If he must feed, we advise giving cakes of **hard** candy. A two- or three-pound cake, placed with as little disturbance as possible to the bees, under the packing, and directly on top of the frames, should carry the colony thru until the first of March, when another cake can be given.

The question arises as to what kind of candy to use and how to make it. The ordinary Good or queen-cage candy is not alto-

gether suitable. The bees will suck out the honey and allow the granules of sugar to drop out on the bottom board. If soft candy is used, it should be given in some sort of container —a wooden or paper pie-plate—where it can not run down among the frames if it becomes soft. Two sticks should be laid across the candy, when the packing can be folded over.

A much better candy for midwinter feeding is made as follows:

Into an ordinary kettle of good size pour sugar and water in the proportion of three parts of sugar to one of water by measure. Stir thoroly. For every 20 pounds of sugar put in about one-fourth teaspoonful of tartaric acid. The mixture should be dissolved before applying the heat. Boil for an hour or so. As the white scale or incrustation forms on the inside of the kettle, scrape it down. While it is cooking, tests should be made frequently as follows:

Dip up a spoonful of the boiling mixture and slowly pour it back. When it leaves a fine string it is cooked nearly enough. Now, then, from time to time, with the spoon let a stream fall into a cup of cold water. When the boiling has proceeded far enough the string under water will be brittle and crack.

Some use the plan of dipping the finger into cold water and then into the hot syrup and out again instanter. This will leave a film of sugar around the finger. When this film cracks on bending the finger the cooking has proceeded far enough.

Another and a better way to determine when to stop boiling is to use a thermometer and bring the temperature up to 270 degrees. By that time the water will have been evaporated, when the hot mixture can be poured (never scraping down the sides after beginning to pour) into paper or wooden pie-plates, which must not be disturbed or moved at all till the candy has hardened. Paper pie-plates are just about right, and hold about three pounds. One of these, when cold, can be placed on top of the brood-frames upside down, being sure to place small sticks beneath the inverted plate of candy and so provide a good bee-space between it and the top of the frames.

It is a rather nice job to make hard candy (not too hard nor too soft) for winter feed, and it will be well to get in touch with some woman who knows how to make home-made candy, as the first experiment may result in failure. Extreme caution must be exercised not to burn the sugar. Some beekeepers use honey in place of tartaric acid, but experience shows that by the use of too much honey the candy will be too soft and "run" all over the frames. A pound of honey to 20 pounds of sugar is enough. But another difficulty with the honey is that it is liable to burn on account of the extremely high temperature, 270 Fahr. The A. I. Root Co. use an invert sugar in the form of nullomoline in place of honey in the proportion of 1 of nullomoline to 12 of sugar. This does not burn, and makes the candy a little softer.

O. L. Hershiser, at the Buffalo convention held recently, stated he had been having a good deal of trouble in making the candy; but it developed he had been using too much honey. He told how he fed his bees successfully one winter by making a syrup of three parts of sugar to one of water, putting in a level teaspoonful of tartaric acid to 24 pounds of the syrup. The syrup was fed from friction-top pails, the top being perforated with a common awl. The holes should not be larger than 1/32 of an inch, and the top should fit air-tight. If they do not fit tight they should be made so with a rim of paper. The syrup should be fed cold to avoid exciting the bees. The hive should be level, and the can of syrup should be allowed to drain in an inverted position over a pan until it ceases to drip before putting on the hive.

The objection to any kind of syrup in midwinter is that it is apt to stir the bees up so they will fly out; and there is the further objection that a five- or ten-pound pail full of syrup put under the packing and on top of the frames is equivalent to a big stone or a piece of iron. Such a large mass will have a tendency to chill the cluster, because the bees would be next to the bottom of the can. A slab of hard candy in a paper pie-dish about ¾ inch thick will not dissipate the heat like a much larger bulk of syrup in a can. The candy contains no water, while the syrup does.

We very much prefer the candy for an emergency winter feed if the beekeeper can possibly make it and we think Mr. Hershiser would also.

One thing more: If you are unable to get any sugar, write us, and we may be able to tell you where or how you can get it. We may or may not be able to supply you; but our readers may rest assured that Gleanings will do everything possible to enable its subscribers to get sugar at cost, to us.

In the mean time the reader is requested to read over carefully our editorial on the sugar shortage, in our November issue, if he has not already done so.

Dr. C. C. Miller Still Improving.

THE GOOD NEWS comes from the home of Dr. Miller at Marengo, Ill., that he continues to improve, and the hope is expressed that the beekeeping world may not yet have to give him up. Mrs. Miller, writing to Gleanings under date of Nov. 16 says:

"The 'tired heart' has responded nicely to treatment and is again beating quite regularly. The thing now is to pick up strength, and a few more years may be added to the blessed 88 years already given."

Now that the good old Doctor is on the highway to recovery, we do not believe he will be averse to hearing from his friends, but they should not expect replies to any greeting they may send him.

WHOM CAN BEEKEEPERS TRUST

On What Honey Market Quotations Can They Rely? How Does the Honey-Buyer Work? Associations?

By Prominent Beekeepers

(Together with the camera's story of a sale of honey.)

"HOW do you get honey quotations"?

"Do you rely on the quotations printed in the bee journals"?

"Do you believe the Government quotations are correct? the wholesalers'? the producers' "?

"How do the honey-buyers approach you"?

"How do you try to get a fair price"?

"Do you think uniform prices can be established by honey-producers' associations?"

"If dissatisfied with present methods of buying and selling, what is your solution of the problem"?

Those seven questions were sent a month ago to about a half-hundred successful and prominent beekeepers thruout the United States and Canada by Gleanings in Bee Culture, with a request to send answers. We said to these beekeepers: "You would be

Scene 1—the buyer arrives, and—

interested in these questions, wouldn't you, if a lot of live, wide-awake beekeepers would answer them and you could read the answers"? We invited the beekeepers to answer in their own way and to take any scalps they pleased—and we would publish their answers.

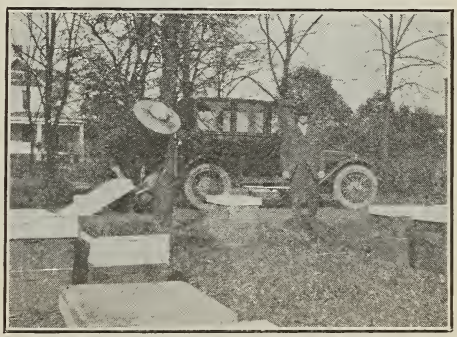
Our purpose was to give all readers of Gleanings the best possible ideas as to how to get the most reliable honey quotations and the best price for their honey.

The most significant fact, perhaps, about the result of this appeal to 50 successful honey-producers for marketing information and experience was the answers we didn't get. Only about a third of those addressed responded. We thought we wrote them the sort of letter that would bring all of them out of their holes, so to speak. It seems we didn't. Two-thirds of them stayed in.

Well, why?

Some of them were probably too busy to reply. We suspect one or two (we are charitable in making this estimate) said to themselves: "It's none of Gleanings' business nor anybody's else how I sell my honey." We suspect more of them thought this way—in very brief: "I am not going to give anything away to the honey-buyers."

The reasons of those not replying, we don't question at all. It was entirely their



approaches the beekeeper, who—

own business. But the answers of the third who did respond we shall try to give here fully for the benefit (as we believe) of all beekeepers who may now or hereafter have honey to sell. As will be seen, we are letting the bee journals "take their medicine," and no "scalp" taken is kept from our readers nor any of the discussion contained in the answers repressed. Only one or two

is presented with the buyer's card.

of those who replied gave answers to all the questions asked.

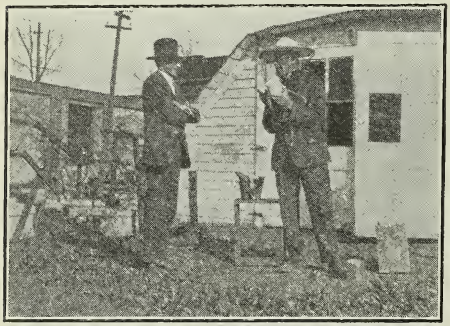
"How Do You Get Honey Quotations"?

To this question, five gave no answer; three say they get their quotations from the Government market reports; two from the Government market reports and beekeepers' journals; one, from Gleanings and American Bee Journal only.

J. E. Crane of Middlebury, Vt., says:

"We get the quotations of the Government as well as bee journals, wholesalers and retailers, and producers. We try to learn all we can from everybody interested. Editorials of bee journals perhaps give us the best ideas of conditions."

R. F. Holtermann says: "My estimate as to the price that should be set upon honey is based upon: The available supply; the value and amount of produce entering into competition with honey; the purchasing



Scene shifts to the honey house, where—

power (in other words, the temporary prosperity) of likely customers and their estimate of the need for it; and the amount that can be asked for it without putting it outside of the consumer's consideration."

S. H. Burton of Washington, Ind., writes: "Honey quotations are secured thru the Government market reports and the bee journals. We also ascertain the wholesale selling price to the retail trade by asking our local grocerymen what they pay for

the buyer looks at the comb honey,—

honey from the wholesaler. I am also acquainted with several traveling grocery salesmen who are willing to give me their latest prices to the retail trade."

The Pettit Apiaries (Morley Pettit), Georgetown, Ont., says: "We follow closely every available source of information—the Government reports, the bee journals, the prices recommended by the crop report committee, quotations in the leading daily papers, etc."

F. Eric Millen (formerly State Apiarist of Iowa, now Provincial Apiarist of Ontario), Guelph, Can., says: "Members of the Ontario Beekeepers' Association are in position to secure fairly complete reports of both light and dark honey crops, as over 1,200 members are circularized regarding the honey crop, and then the 'committee on honey crop reports' meets and advises the beekeepers as to what price they feel honey should sell for, taking into consideration the crop both in Ontario and in the States so far as can be ascertained, crops of small fruit, supply of sugar, and any other factors that will enable them to arrive at a fair price."

"Do You Rely on the Quotations Printed in the Bee Journals"?

To this question, N. E. Miller of Logan, Utah, says just plain "No." Edward Hassinger, Jr., of Greenville, Wis., says "Partly." F. W. Lesser of East Syracuse, N. Y., says "bee journal quotations I have not found to be very accurate and usually too late to help in selling to the jobbers." T.

and proceeds to the extracted, which—

W. Burleson of Waxahachie, Tex., writes: "Yes, I think the quotations in the bee journals are very accurate and just." Fred Leininger & Sons, Delphos, O., say: "We are perfectly satisfied with the quotations. We sell our honey to some of the largest honey-buyers in the world and rely on the prices they quote." E. F. Atwater of Meridian, Ida., says: "I place some reliance on the quotations by dealers in the bee journals." W. E. Elam of Greenville, Miss., writes: "Of course, some quoted prices in papers are high and some are low, depending on who makes the price."

F. Eric Millen tells us: "I receive the Federal reports and as these come to hand before the bee journals, I do not rely on the bee journals for quotations, altho helpful information is often obtained from the bee journals, as reports dealing with various factors which are not mentioned elsewhere."

R. F. Holtermann of Brantford, Ont., speaks right out in open meeting on this question as follows: "No, I do not rely upon the quotations printed in bee journals

or other publications. They are compelled to get quotations from interested sources, and I have seen a good many instances where they were absolutely incorrect. Wholesalers when they have a light stock may consciously or unconsciously seek to depress the market, and when they are overloaded they may keep the price in the paper up in order to try to get the beekeeper to ask a price at which he cannot sell and on account of quotations will not sell. Last winter in Toronto and other places the market quotations ran along 25c per pound, and yet many beekeepers could not sell at 20c per pound.''

S. H. Burton says: ''We rely somewhat on the quotations printed in the bee journals and find them fairly accurate. But owing to their being monthly publications we do not like to depend entirely on this source of information for up-to-the-minute prices.''

Morley Pettit sizes up the market quotations in the bee journals in this way: ''Altho there is much conflicting information from these different sources, it enables the

he samples, and then—

wide-awake beekeeper to form a fair idea of market conditions. We do not absolutely rely on any of the quotations given, but allow for the 'thought behind' in the different ones who quote. We follow with the keenest interest editorial notes and comments in the Western Honey Bee; for California is first on the market, and prices received there give a fair forecast of what we may expect.''

Several express no opinion as to the quotations printed in the bee journals.

Do You Believe the Government Quotations Are Accurate? the Wholesalers'? the Producers'?

''No, but best we have,'' says N. E. France of Platteville, Wis. N. E. Miller says about the Government quotations being accurate, ''sometimes''; but as to the wholesalers' and producers' quotations, he says: ''No, I should say not.'' J. E. Crane says: ''We do not consider the Government reports very accurate, but they help to give us a general idea of conditions.'' Edward Hassinger says: ''At the present time I believe these quotations are accurate.'' F. W. Lesser expresses this opinion: ''Government quotations I believe to be juggled by reporters. In one market white clover is reported as selling for less than Southern amber, and this repeatedly; wholesaler's quotations the same; producers' more accurate.'' T. W. Burleson says: ''As to Government quotation accuracy, yes, in a large measure; they have a fine system for gathering reports and I would rely upon

the argument begins.

them; the wholesalers'—no; the producers'—not always.''

E. F. Atwater writes: ''I believe and hope that the Government quotations are more reliable than those of either dealers or producers as a general proposition, for they are probably less influenced by self-interest.''

F. Eric Millen's opinion is: ''I certainly believe the Government quotations are as accurate as possible, as there is absolutely

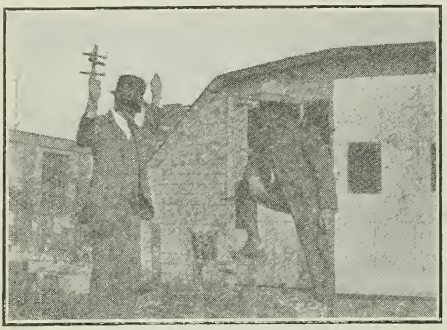
"You must think I'm a fool."

no reason for them to distort the facts. As regards the wholesalers' and producers' quotations, these may be a little off one way or the other, depending on the view-point of the two parties, but I believe they are generally very near the price one wishes to sell for and the other wishes to secure.''

S. H. Burton writes: ''I do not believe the Government quotations are accurate and have invariably found them below what we have been able to secure in our local markets. I also believe the wholesalers are in-

clined to "bear" the market at every opportunity."

Adams & Myers of Ransomville, N. Y., write: "Regarding honey quotations we rely on the quotations recommended by the Western New York Honey Producers' Association's committee. This committee is composed of five members who gather all the data they can regarding crop and market conditions and determine a fair minimum price based on their information."



"Absolutely impossible to pay any such price!"

Morley Pettit gives this view: "One could scarcely rely on the accuracy of both the wholesalers' and producers' quotations in Canada this year. There has been a sharp contest, wholesalers determined to bring down prices, met by an equal determination on the part of producers to hold to last year's standards. The producers who have held steady are winning out, but many faint-hearted ones, while loudly protesting that prices were not high when compared

"I've got about three minutes more."

with other food products, have made sure of selling their own crops by retailing at wholesale prices."

"How Do the Honey-buyers Approach You"?

"Every old way they can," says N. E. Miller out in Utah. T. W. Burleson says, "thru letters." F. W. Lesser's observation is: "Buyers of honey, as good buyers of all commodities, usually depress the market when buying."

W. E. Elam says: "The buyers generally ask me to quote them a price. I usually refrain from quoting prices, but I suggest a price that I would probably accept if I do not get a better offer in the meantime. This usually brings a telegraphic offer, which I close if suitable. If not high enough, I write that I will close when all quotations are in. I do not ship honey on consignment."

Mr. Holtermann writes: "Honey-buyers do not often approach me. Being willing to take a fair market price and seeking to supply an article as represented, there is no difficulty in disposing of our crop."

Morley Pettit says this: "Let the beekeeper not wait to be approached, but put his product before the public—either the wholesale buyers, the retailers, or the consumer, as he may select."

"Honey-buyers," says E. F. Atwater, "usually try to approach me with circular letters; more rarely in person; and occasionally with absurd offers which are anything but complimentary in their assump-

"Nothing doing at that price"—and

tion of ignorance on the part of the producers."

J. E. Crane reports that "honey-buyers rarely meet me, but I receive their cards or requests for honey."

Edward Hassinger says: "Honey-buyers ask for sample and lowest quotation."

"How Do You Try to Get a Fair Price"?

"Governed by U. S. market reports," is N. E. France's rule. "By holding," says N. E. Miller. T. W. Burleson says: "I take the quotations from the bee journals and Government bulletins and local conditions into account in arriving at a fair price." F. W. Lesser's procedure is thus stated: "I try to get fair prices by judging the crop and by the prices paid in the West, which set the prices for the East."

W. E. Elam says: "Most buyers come back with an offer of about half of what I quote. Due to this I usually offer to only two or three dealers regularly who have paid me reasonable prices in the past. I feel out the others occasionally to see if they have changed their methods—usually they have not."

"In Ontario," F. Eric Millen reports, "for the past few years the buyers have realized that they can do very little with the beekeeper, if a member of the association, unless they offer very close to the price recommended by the crop committee, so that if beekeepers hold for this, they seldom fail to obtain it."

S. H. Burton says: "I get all the quotations possible, study them thoroly, and then make up my price in accordance with the facts and what is fair and just. I never would let the other fellow set a price on any commodity I had to sell, be it labor, apples or honey; and I am known in our local community as the 'price setter,' and all the others follow. If we start comb honey out at 35c per pound retail, then there is very little offered above or below this figure in our territory. The bulk of my honey is sold locally. I have moved some 4,000 pounds in 60 days in our local market, a town of 12,000 inhabitants. I create a demand for this honey by judicious advertising and window displays. I induced one grocer to let me fill

the buyer moves off, and—

up his large plate glass show window from top to bottom with cases of honey. The grocer made the remark that it was 'some honey' but that he would not sell that much honey in a year. In one week from the time we made the display he had sold $100 worth of honey, and still the demand grows."

Morley Pettit says he tries to get a fair price as follows: "To arrive at a fair price I consider carefully the honey crop reports all over the continent, the sugar situation, fruit crop reports—particularly the apple crop—and the price of food products generally. The confidence born of a knowledge of the situation is a large factor in enabling one to hold for and obtain a fair price."

E. F. Atwater blames the beekeeping craft for getting less than fair prices, saying: "I think from my own experience in producing and selling tens of carloads of honey that many producers sell at too low prices, and are themselves the worst enemies of the craft. I am sometimes ashamed to think that I am numbered as a member of a craft which, in the face of rising costs of nearly everything required in the production of a crop, are so weak-kneed as to be willing to sell their product at almost any price offered."

J. E. Crane says: "I sell most of our honey direct thru wholesale houses that we have found reliable. Wholesale houses take orders for our honey thru their drummers that are on the road, and we ship direct to the retail merchant, we setting the price. This saves the wholesale merchant the trouble of storing and any risk. Drummers

still farther off.

from a wholesale grocery house can just as well take orders for honey as other groceries, and it takes little extra time or expense. Sometimes my son has gone on the road but it is rather expensive where but one class of goods is sold. We are very well satisfied with the price we receive. Our methods of sale usually save the retailer one shipping expense or one freight bill."

Edw. Hassinger gives his method of sell-

"Come back here a minute."—

ing for a fair price as follows: "I send out large samples to a large number of buyers and ask a fair price in accordance with the quality of the honey, and always find one buyer out of the large number who can pay 10 per cent more for my honey, considering quality, than the average buyer pays."

"Do You Think Uniform Prices Can be Established by Honey-producers' Associations"?

"Yes, if the honey-producers' associations will co-operate with each other," is

the opinion of T. W. Burleson. F. W. Lesser thinks "associations doubtless help, but the law of supply and demand is the main thing; let associations take the place of speculators and some of the jobbers, as the speculators gouge the producer some of the time and the consumer all the time." N. E. Miller says, "No." N. E. France says: "No—location and pasture change price." "Uniform prices can be obtained thru bee-

And the buyer starts back, you bet.

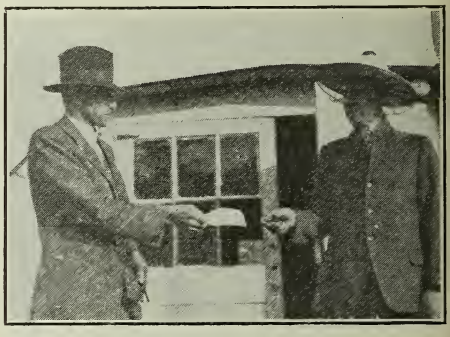
keepers' associations," say Fred Leininger & Son.

Edw. Hassinger writes: "I do not think uniform prices can be established except for local communities by price committees, representing honey-producers' associations. I do believe that minimum prices can be established in accordance with supply and demand. Supply and demand will make the price and take care of itself in time."

They get together in short order, and—

Morley Pettit thinks: "If the orange-growers, the raisin-producer and the cranberry-producers can associate and form a producers' association as has been done, there is no reason at all, why in the course of time the honey-producers cannot do the same, and then uniform prices should be easily established."

Jay Smith of Vincennes, Ind., comments on only this one question of honey-producers' associations establishing uniform prices, and says: "I have had in mind for a good many years a kind of Utopian dream on this subject. I would not have told what this dream is only it seems to me now that things are working that way. I believe that if honey-producers' associations will all cooperate in one grand National Honey-producers' Association (as the movement at present is in that direction) that by a systematic drive to get all honey-producers to join an association which belongs to the National, we could then take a cent or one-half cent per pound for all honey handled thru this affiliated association and carry on an advertising campaign thru the big periodicals such as was never dreamed of before. One-half cent a pound would bring us millions of dollars for advertising, and honey would be in sharp demand at a greatly advanced price. I should think at least 25 to 30 cents wholesale. No longer would we have Government reports publishing, "Moving slow." It would be, "Great demand." We know that a large number of companies are putting out other kinds of food and getting high prices for it, not on



Mr. Beekeeper gets a check.

the merit of the food itself, but on the merits of their businesslike and extensive advertising campaign. If the honey-producers can get together and associate as I have mentioned, they could carry on an extensive, businesslike advertising campaign, and, in addition, they would be offering to their customers an article of food absolutely unsurpassed in quality. This might not be carried out in the immediate future, but if we all pull together it can be quite soon. Join your association and get others to do so."

W. E. Elam says: "I believe honey-producers' associations could have a wholesome effect on the market, if they could enforce proper care in producing and extracting honey. Personally I would not care to ship my honey with the man who is not clean in his extracting work. If an association could handle enough honey to prepare it for the retail trade, that is, establish re-packing plants in the different territories to be supplied, it might build up a stable business. It is doubtful if this could be accomplished, as so many producers have their own local trade that they would not give up under

any scheme. Those packing plants would blend honeys or have certain producers pack honey in shape for retailers."

R. F. Holtermann expresses his ideas as follows: "Honey-producers' associations can not well establish uniform prices. It can only be done as long as the supply does not exceed the demand. When competition arises in securing a customer, there will be cutting in prices. Then, too, with the variety in quality, judgment in grading will vary, and few men have the calm, judicial mind to be able to judge their own baby impartially. We have been in towns where the seller and the workman have had very little competition. I do not think it would be well for us if that condition existed very long. As a rule, we stand adversity better than prosperity."

S. H. Burton says: "There is no question but what uniform prices can be established by honey-producers' associations—that is, if the association is a real live one and the members are willing to abide by the decision

They shake hands, and declare amity.

of the fair-price committee. If a member will not agree to abide by the decision of the committee, then he should be expelled from the association and not permitted to have a voice in its affairs."

Morley Pettit's view is that "Honey-producers associations have already done a great deal toward establishing uniform prices. As they grow in numbers and influence, greater results can be expected, and there is much yet to be done."

E. F. Atwater says: "While it is unfortunately true that associations do not receive the support which they need from those whom they are designed to benefit, yet they do help when organized in accordance with business principles and when efficiently managed. It is my opinion, that before many years we shall have an amalgamation of the more successful co-operative organizations, controlling the principal carload-shipping districts, looking toward the more intelligent distribution of our product."

Adams & Myers say: "We believe that uniform prices can be established thru honey-producers' associations. We believe that each beekeeper should sell all the honey possible locally at an agreed price, as local consumption aids distribution."

Wm. Muth-Rasmussen, of Independence, Calif., writes: "Individual honey buyers eliminated this year. Am a member of that 'California Honey Producers' Co-operative Exchange,' which now handles nearly all the honey of this locality, and I feel confident that the management is doing the very best possible for the members. We are only

"No, no. You're wrong. I am giving you a great big price, sure."

beginning, but expect to improve as experience is gained and markets developed. I am satisfied with the dealings of the Exchange."

"If Dissatisfied with Present Methods of Buying or Selling, What Is Your Solution of the Problem"?

"Have one organization and all join," is N. E. Miller's solution. N. E. France's

"Well, goodbye. See you next year."

advice is: "Get quality goods—they sell themselves; sell to the consumer." F. W. Lesser gives this as his view: "I think the producers have had high enough prices the last few years. Cut out some of the cost and profits between them and the consumer."

T. W. Burleson says: "This question is a corker. I am not at all satisfied with the buying and selling method. But I think with co-operation on the part of the different honey-producers' associations and the bee journals, we would soon be able to so

understand each other that we could get much better results and the producer would be much better off for success in this undertaking."

F. Eric Millen says: "At the present time there are far too many grades and qualities of honey on the market. The public buys one flavor and quality of honey today, and another flavor and quality tomorrow. They may like the one and not the other. Some definite form of grading, so that all the honeys produced in one State or Province are practically uniform, would tend to make honey a more staple article, and finally would work out to the benefit of the beekeeper by returning him a more uniform price, and one that would give him a fair profit for his labor. I believe the selling of honey is a separate business, and it will be placed on a firmer basis when there are more selling organizations."

Morley Pettit's answer is: "We have no particular reason to be dissatisfied with present methods of buying and selling, so long as the supply is so far short of the demand. As the industry develops and production increases, more organized effort will be necessary in advertising and distribution to place honey where it belongs as a staple food."

E. F. Atwater says: "With greatly increased production, I fear that we may see times come when sales will be difficult and prices unsatisfactory, unless honey can be furnished to the consumer in neat, low-cost packages, at a reasonable advance over the price received by the producer."

Fred Leininger & Son say: "We are not dissatisfied with present methods of buying and selling. We buy needed supplies thru our organization, thereby getting better prices at a discount of quite a saving. Our association meets the second Tuesday of each month to discuss the various questions of the day. We have many pleasant meetings and are getting better acquainted and are learning more of each other, making life worth while."

Adams & Myers say: "We think the present methods of buying and selling very good, but can be improved upon by a little co-operation and education to the fact that all our interests are mutual. Much could be accomplished by co-operative advertising, and, by so doing, the demand for honey will grow faster than increased production can supply it."

R. F. Holtermann's view on this final question is this: "There are honest and dishonest dealers; there are honest and dishonest beekeepers. An honest man prefers to deal with an honest man, and if each knows the other to be so and he knows there will be no unpleasant afterclaps, he can afford to work on a finer margin, because he feels sure that that margin will not be jeopardized by unforeseen and unagreed conditions arising."

Beekeepers find time for sport. At the extreme left of this picture is Ira Bartlett, one of the best beekeepers in Michigan. After his bees were in winter quarters last fall, he went deer hunting. The big buck he got hangs just behind him.

ANNE LESTER AND DADDY LOWE, BEEKEEPERS

By Grace Allen—Chapter XI

IT was nearly Christmas. Long ago Anne had sent off her package for Robert ("But why don't I hear from him?" she kept worrying). Then her busy fingers had made countless bright friendly things for hospitals; and now she was wrapping gifts for some little city children to whose chimney-tops she had been guiding old Santa for years.

The telephone rang. Some lady, visiting a neighboring farm, wanted to talk to Mr. Lowe. He wasn't there, Anne explained. "I wanted to ask him about starting with bees," the voice regretted .

"Can I help you any?" Anne asked. "I am Anne Lester, and Mr. Lowe is kind enough to speak of me as his assistant." The lady was delighted. Question followed question and more of them, while Anne answered and explained and advised. "No," she was patiently repeating at the last, "I really can't advise your buying the bees and moving them to your home at this season. As I said before, early spring is the best time."

"But I hate to wait," sighed the lady. "I'm so enthusiastic now."

"Why not spend the winter studying?" suggested Anne wisely. "You can subscribe to a bee journal and get a book or two and some government bulletins, and by spring you'll know much better how to go about it."

"Oh I'd much rather someone would tell me," the lady confided, while Anne wearily changed the receiver to the other hand. "I'll be out visiting my cousins again in the spring, and I'll run over there some day, if you don't mind, and let you tell me all about how you manage."

As Anne finally hung up, Jack entered, coming home from an interview with a certain superior officer. "Do let me speak first," she implored. "I beg to announce that some day I am going to write a book—about beginning with bees—and every other sentence is going to say that the people who won't knuckle down to read and study—"

"Deserve to be stung," finished Jack. "Be comforted; they quite likely will be."

Anne smiled. Then the face and eyes of her turned all to a question. "Tell me, Jack," she said gently, as he laid off coat and gloves.

"It's bitterness and joy mixed," he answered gravely. His young face almost hard with suppressed feelings, he walked to a window and looked out across the winter earth, seeing nothing there. "No more overseas for me, Anne," he said shortly. And Anne looked out of another window and saw nothing there. Such a tragic world to be young in!

"I'm sorry," was all she said, in that strangely moving voice of hers, at once so low and so vibrant.

"It's the other fellows," Jack said almost harshly, "the fellows over there meeting it all, that get me so. Like Robert. No letter yet, I suppose?"

She shook her head with the look of dread that was beginning to show so often.

"Oh, well, it'll come soon," he reassured her. Then coming hopefully back to himself, he added quickly, "There's a good chance they'll put me on instruction work at camp, tho, Anne."

He told her more about his interview, then asked, "Where's Dad and Mother?"

"Gone to town to buy something. They'll be back soon. Let's go out to the shop, Jack. Your father's arm is so lame he can't work much, and we can easily nail up frames while we talk."

They left a conspicuous note on the table, announcing, "We, too, have gone to shop." And soon they were at work.

Rap tap tap went their hammers. "Am I seeing right?" Jack exploded presently. "Are you beating me at this job?"

"Oh surely not," deliciously humbly.

"Oh surely so!" rebelliously.

She laughed. "You're out of practice. I've learned how to pick up the different pieces and hold them so as to work to the best advantage. Like this—watch. Of course, your father showed me."

"But why all the haste anyhow?"

"Well it's fun for one thing. As Daddy Lowe says, there's a real satisfaction in seeing how quickly and skillfully you can do things."

"He's right, of course. I've often heard him announce on New Year's Day that he was all ready for spring."

"Now isn't that wise? He keeps me busy admiring him. Why, this fall, as soon as the bees were ready for winter, he started planning for next season. So much increase, so much foundation, so much this and that—a few new covers, and so on. Then he took a careful inventory. Counted up everything he had and ordered everything he didn't have."

"No early spring ever yet sneaked in on Dad and found him hollering for supplies."

"Yet things happen to him, same as to the people that tell their troubles to the bee journals and explain just what happened to keep them from having their new hives ready when swarming time came. He's got this lame arm now. But he starts so early he keeps ahead of any ordinary setbacks or interruptions."

Rap tap tap the hammers kept on, and one by one the rapidly nailed frames were hung in the supers.

"Anne," said Jack finally, "there's something I want to talk about."

"Oh, not now," protested Anne, suddenly very young and confused.

"Not that," Jack said gently. "Tho I shall want to know soon if you will marry me before—"

"Jack—don't!"

"But Anne dear, you'll really have to get used to the word!"

"It's grown to be such a big word—so sort of overwhelming," she explained; "and lovely, too," she confessed softly.

Into the boy's eyes came a look as tho he had bared his head to something holy. Then he went quietly on with his work.

"All I'm going to talk about — right now," he began again after a few minutes, "is what I'm going to do after the war."

Anne looked up quickly. "Goody!" she beamed. "That's what I want to hear about."

"What would you like me to do?"

She shook her head. "That's not the way for you to decide."

"It's one way. But anyhow I've already decided. You see it's like this. There are two things that I guess are in my blood. They were born in me and I've been brought up on them. And before I ever saw you, I heard that they were the very things you cared most for in all the world. Guess what."

"Books, probably, for one," Anne mused daintily, "before I knew you."

"And all outdoors for the other," Jack added. "Well, I reckon that one time or another I've decided on every possible career from cowboy to millionaire. And Dad, like the good sport he is, just kept still. I went to college still undecided. But college did a lot to settle things. The war's done still more, and I guess you've finished it. Riches go hang! I'm going to be a beekeeper like my Dad!"

Anne's eyes were shining. But she said not a word. So he went on. "I've thought it all out. All the money in the world isn't worth a copper cent except for what it will give a fellow. And I figure it gives chiefly luxuries and leisure. I'm going to swap the luxuries for health. As for leisure, you can get that two ways. You can slave for years—with never a minute for history or science (my favorites)—just to pile up a lot of money just to get a lot of leisure some time later. Or you can have a reasonable amount of leisure as you go and not slave at all."

"Like Daddy Lowe," said Anne.

"We're going to be like Dad and Mother, aren't we?"

"Perhaps," the girl smiled quietly, "when we're as old as they. Meanwhile if you ever get to feeling uncomfortably ambitious, don't forget that honey-production can be made a pretty big business—not a get-rich-quick affair, but a get-rich-enough quick-enough business. There are honey-producers whose incomes average — oh, I don't know—thousands of dollars."

"Well, just watch us," crowed Jack. And there came a rap at the door.

"Katherine!" they both exclaimed as a radiant girl floated in, followed by an embarrassed but happy-looking Theodore.

"Mr. and Mrs. Lowe sent us out here. They're coming too." Katherine slipped an envelope into Anne's hand. "We wouldn't let the mail bring it to you, we brought it ourselves."

"Married!" gasped Jack, looking at the wedding announcement, while Anne touched the other girl's forehead with her lips and then gave both hands to Theodore.

Just then the two old people came in, Mrs. Lowe with a foreign letter. "From Robert!" Anne cried. "Will you all excuse me?"

Hurriedly her half-frightened eyes swept the lines. Then came a low cry and she crumpled into her chair, as white as the paper that fell to the floor.

"Sweetheart!" Jack cried, leaping to catch her. "Anne—my Anne!"

"Look at the letter, Jack," Mrs. Lowe directed gently, "while I tend to Anne."

So when the girl's eyes opened at last, Jack was leaning over her, smiling. "It's all right, dear," he was declaring happily. "Old Bob's in clover. He just told things backwards—the old chump!—and all you saw was that he was hurt and not coming back. He's had an awfully close call, but the only reason he's not coming back is because he's going to marry a French Red Cross nurse with a rich father and be a Parisian bank director all his life! He'll always be lame, but he says he doesn't mind that, because he suspects Marie is chiefly in love with his limp!"

After they had re-read the surprising letter and talked it all over, Jack smiled uncertainly at Anne. "I hope you won't mind, Anne," he said, reddening boyishly, "but I'm afraid I spilled the beans! When you went all in a heap that way, I guess I made our announcement too!"

"Well," Anne said, after the friendly little wave of congratulations and good wishes had passed, "for a wartime Christmas, this is going to be a pretty good one after all." She looked from her letter to the circle of happy faces there in the early winter twilight of the old workshop, and smiled. "It's a little like an old-fashioned play," she said, "where everything ends all right in the last act and the actors all come out together and bow to the audience! Now if only the war were over!"

"It will be, before another Christmas," Mrs. Lowe said serenely, tho no one knew she spoke the truth.

Anne turned suddenly to the old beekeeper, laying her hand in his. "Daddy Lowe, if you could give all us young folks one great gift, right into our hearts, what would it be?"

"Wisdom," the old man answered simply. "For 'in all ages, entering into holy souls, she maketh them friends of God.'"

THE END.

REFLECTIONS OF A BACKLOTTER

If You Want to be a Beekeeper of Good Standing Try all the New Things

There are so many interesting things about the bee business that I must ask your pardon for doing all the talking, but I simply must give you the benefit of my experience. I should be quite willing to step aside and give some of the rest of you a chance; but, as I told you at the last club meeting, I have the right of way because I can do more talking than the rest of you. That's why you made me president. This is my monthly presidential address.

I've always made a good deal of fun of Friend Wife for her desire to be in style. It doesn't hurt my feelings any if I have to wear a suit of clothes three years if it is fairly decent and if the holes are not too big. But Wife must have a new suit every year and a lot of other things, just because it is the style. I'm convinced that this slavery to style is all wrong in women, but I'm not going to try to reform that condition. What I'm going to tell you fellows about this evening is about the styles in beekeeping. It is certain that you can't be a good beekeeper unless you are wearing the 1919 model, as it were; that is, doing the thing which is the last word.

You fellows who have been in the business only a little while may not know about this style business. But as I told you before I have decided to become a regular fellow in the bee business and I've been reading all the back bee journals that I can find. So I'm going to tell you what I've found about this and that will save you a lot of reading. I may as well tell you that if you are to be beekeepers in good and regular standing you must try everything that is advocated and drop what you have been doing, for I am sure that you want to do the right thing.

You know, of course, that Mr. Langstroth invented the movable-frame hive in the fifties. Well, after he made us a good hive for comb honey we went along for a time all right, but pretty soon the fraternity was organized. Now, as I am going to tell you this evening, the constitution of the fraternity requires that the styles in beekeeping shall be changed frequently.

At first most of the changes were in hives. The hive was then considered the most important thing in beekeeping, consequently that was the place to change all the time. Now we know that the hive doesn't make much difference after all, so we have all about agreed to let it alone and to make the changes in things that really cut more figure. Maybe you don't see the logic of that, but after you have been in the business as long as I have and have studied up on the history you will, I am sure, agree with me.

First of all, the style changed so that all hives were to be made one board thick. That style reminds me a good deal of the skirts that the women are wearing now. I've often thought that the women get chilly at times, and I suppose the bees do too. But the bees are game sports and do not object as long as their owner plays the game according to the rules.

Then we ran up against a law of Nature that made a quick change in the styles necessary really before it was time to make a regular change. The bees simply could not do well in a hive like that. The style had been set without consulting the bees. As I said the bees did not complain, for they are in this to the end; but the less husky colonies died in spite of their good intentions, and all the rest were so weak in the spring that something had to be done about it. There were one or two beekeepers who thought that we would have to go back to the packed hives but they were soon ruled out. You might as well try to get women to go back to the styles of year before last as to try a game like that among beekeepers. So the fraternity in convention assembled decided on a smaller hive. If the bees were made so weak that they could not fill a man-sized hive, then of course the thing to do was to make a toy hive. We did. First we had the eight-frame hive for a time, and we got on fairly well with that. Of course, the crop was reduced, but what is a crop to a beekeeper who is a regular fellow?

The next thing was a shallow hive, and this idea hit hard. Us for the shallow hive. The bees could not fill the eight-frame hive so as to get a good crop of comb honey. Consequently we made a lot of hives, about one a year, that would not allow the bees any space for honey in the brood-frames; so there was nothing for it but that the bees put what little they got in the supers.

That got us into no end of trouble, for of course the bees died like rats in winter because of lack of stores. But where there's a will there's a way, and stimulative feeding in the spring came to the front. That saved a lot of the bees but still they died. The winter losses were about 25 per cent every year and all sorts of plans were proposed to arrange that little detail.

I remember reading an account of one convention where an old fogy insisted that the only thing to do was to put the bees in a full-sized hive and pack them heavily in winter. He insisted that spring feeding is bad and that it is impossible to get a full crop unless we have big colonies. He even went so far as to quote Father Langstroth in his advice to keep all colonies strong, but

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even quoting the Founder did not save him and they put him out of the association.

That fall cellar wintering came in strong, and it was to be the way to revive the beekeeping industry. All sorts of arguments arose as to the best temperature, but it was finally decided that the best one is the one you have. That was an easy way out of the difficulty and it had the advantage that every beekeeper who wintered in the cellar was in style! It isn't very often that we can get a style that doesn't cost us money. Of course, a lot of fellows lost all their bees, and a lot more had mere nuclei in the spring, but they bought more and stayed in the game.

About ten years ago the fraternity got into an awful tangle, for a rather large number had decided to make beekeeping their sole occupation, and if that was to be done the style changes would have to be in things that make less difference to the bees. The shallow hives simply had to go, and cellar wintering took a back seat. It began openly to be advocated that bees must have protection in winter to do well, and spring stimulative feeding was recognized by the younger and better beekeepers as a fool stunt.

This put the fraternity in a bad way, for it looked for a time as if there could be no more of the style business. But the bee business is immortal and will not be downed, even by a crisis such as I have described in my feeble way. I wish that I could make you realize the danger that then confronted our cult. Some of the more imaginative of the beekeepers finally hit on the solution of the difficulty, and it was a most happy solution. Why not go back to some of the early styles and have them all over again? The same old ideas of practice are rehashed annually, why not go back too in the matter of style? The women, after whom we have patterned our affairs, have tried bustles several times, each time with success.

So we went back to real hives, all but a few of the more stubborn ones. Then to get styles we took up first the matter of shipping bees without combs. That made a big hit. It had been tried out thoroly and found not to be a good practice for the usual circumstances, but back it came. All sorts of new cages were devised, every conceivable plan for feeding the bees in transit was brought out, and beekeepers were again happy.

Now, I want to call your careful attention to something which is very vital to the perpetuation of the fraternity. Now that we are driven to leaving out of the styles the fundamental things in beekeeping practice, it is harder to think up a new thing every year. Whether we want to or not, we must keep our styles longer. It is just like the situation that has arisen on account of the war. The women must, to be patriotic, wear their clothes until they are worn out, style or no style. Therefore it is up to us loyal beekeepers to keep our styles until a new one can be brought to the front without much harm.

We must uphold the styles at any cost.

Phil Franklin.

A VISIT AT HOME OF E. ELTHORP

A Statement of His Ideas on Disappearing Disease, Swarming, Feeding, Etc.

At various times during my visits to New York State beekeepers, I had been told that I should meet Mr. Elthorp—that he is one of the best beekeepers in New York, and that in profits per colony he ranked high. Mr. Elthorp is on in years, and has a fine farm with many modern improvements.

Mr. Elthorp's experience covers some 39 or 40 years. He kept over 400 colonies at one time, and all in one apiary. The old Quinby hanging frame cut down to ten inches is used, making it practically a Langstroth frame, except that the eight combs used are equal to a nine-frame Langstroth. He winters all his bees in one cellar.

Fortunately I found that Mr. Elthorp has had experience with the disappearing disease—this (to us) new bee disease which has been far too prevalent to suit our comfort of mind, and the outcome of which is viewed with some anxiety at the present time. We should like to find out what struck us and how hard we are likely to be hit in the future. Well, Mr. Elthorp stated that he first saw the disease about 20 years ago.

When the colonies were strong about swarming time the desire would show itself by the bees coming out in large numbers on the grass, rushing from the hive with wings distended and somewhat separated. It lasted only a few days, but it decreased wonderfully the number of bees to a hive. He had attributed it to hot weather, having detected it two or three times since at widely separated intervals, but always during hot weather. While on this subject it might be well to mention here that, upon questioning Charles E. Stewart in regard to this disease, he said he first noticed it 15 years ago at the time of clover yield. He, like myself, found it worse in damp weather.

Returning to Mr. Elthorp's management, and bearing in mind that he runs all his bees in one apiary with undoubtedly enough work to keep one man busy, he has allowed natural swarming, and has produced comb honey. He has tried to keep increase down by hiving swarms after they came out, setting the new swarm alongside of the old, and then in the afternoon, when the swarms quieted

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down, putting two into one, or three into two. If he united two he would shake a few bees back into the parent colony. Then after seven or eight days he would remove all but one queen-cell from the parent colony, thus preventing second swarms. In this way he kept every colony strong, and he could run every one for comb honey.

When feeding for winter he aimed to do this at one operation about Oct. 1. He stated that if the feeding were done in one night the bees would put the food into the brood-nest, and after a few warm days distribute it as they would stores gathered naturally. Feeding, Oct. 1, 10 pounds of sugar to 6 pounds of water, and cellar wintering the bees, he had never found a colony starved in the cellar, even if they had no natural food; but in such a case they had to be given stores pretty early in the spring.

Asking Mr. Elthorp if he thought 16 pounds of syrup per colony enough food if the bees were wintered outside, he said he did not know, but doubted it. Of late years Mr. Elthorp has not kept so many colonies of bees. One of his best years was 1916, when from 125 colonies, spring count, he secured an average of 175 pounds of comb honey. On the other hand, Mr. Elthorp has sometimes had a total failure.

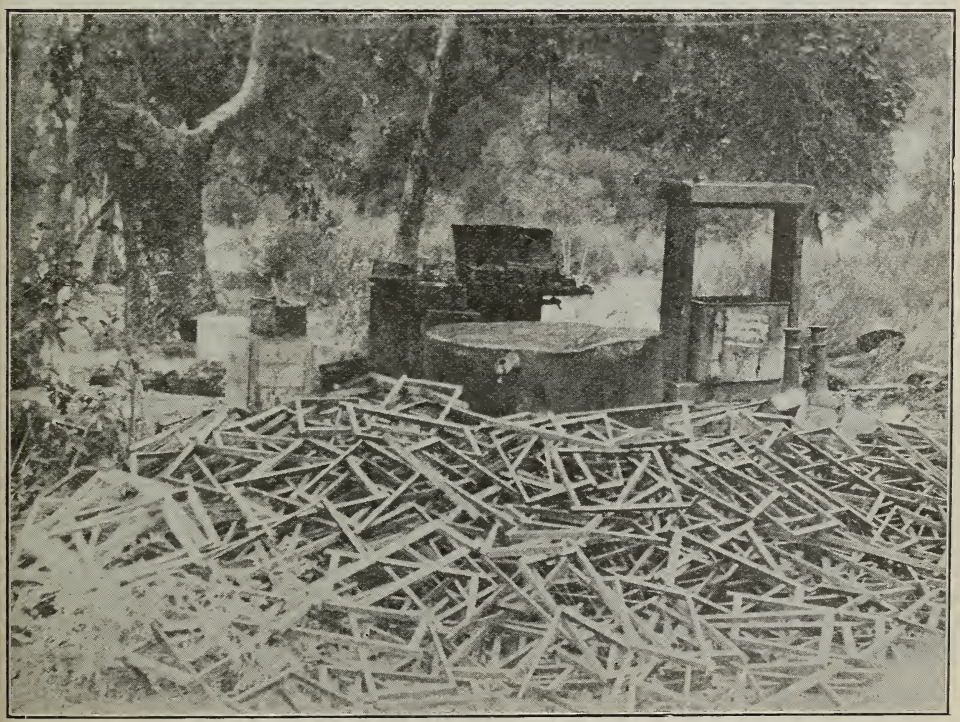
Mr. Elthorp is in favor of letting the bees have ample stores for breeding rather than stimulative feeding. This is a conclusion after making several careful tests. He said there might be localities where it would pay, but in his section there are too many cold, cloudy days, and it does not pay to disturb colonies unless the day is quite warm. When asked if the bees would quiet down before morning if fed at evening, he said, "Yes, but the feeding breaks up the cluster, and in that way a lot of warmth is lost from the brood-chamber." When asked if this would be as much the case when the colonies were packed, he said, "No; I am in love with having bees spring-packed as you have yours. We need that kind of packing for them." R. F. Holtermann.

Brantford, Ont., Can.

A HOMEMADE WAX-PRESS

How Six Hundred Pounds of Good, Marketable Wax Can be Rendered in a Single Day

Blaine Elkins, at Fillmore, Cal., where the sage is at its best in good seasons, made for himself a mammoth wax-press out of some pieces of hard-wood timber and plank,



The brood-frames in the foreground show that Mr. Elkins has done some work.

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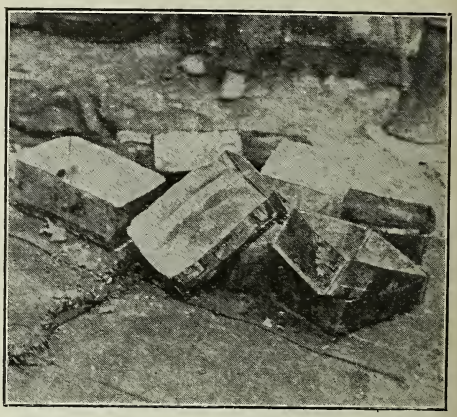
some long bolts which the blacksmith made for him, and some large-sized jackscrews. He had an idea that, if a small wax-press would turn out a certain output, one of giant size ought to turn out a correspondingly larger amount.

How the Wax-press Was Made.

He first secured some very large jackscrews—the largest he could get. Next he purchased some oak plank 3 inches thick and cut two pieces of timber 5 feet long and two pieces 3 feet long. These he held together with four long bolts as shown in the accompanying illustrations. He then had a large galvanized tank made, and a series of wooden slatted frames to hold the "cheeses" bound in burlap.

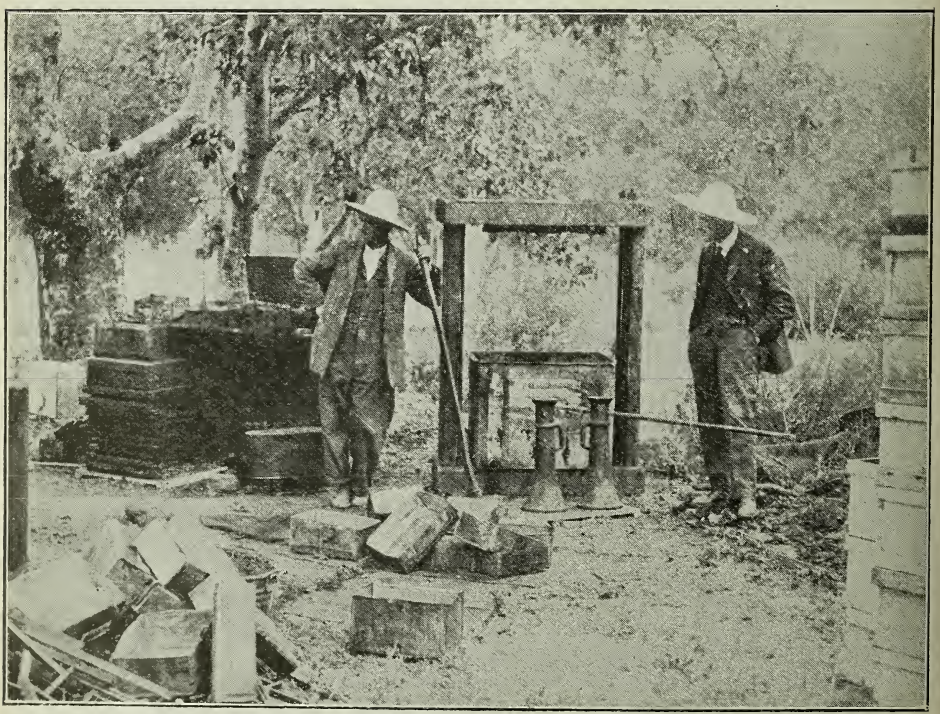
His pans to receive the wax were made out of common five-gallon square cans, cut on a vertical line, making two shallow oblong containers. With a dozen of these he was then ready for work.

With a large circular tank shown in first figure he melted his combs, and proceeded to squeeze out slumgum in the form of big cheeses with his large jackscrews. Not content with giving the cheeses an ordinary



The oblong tin pans made out of five galvanized square cans cut in two lengthwise. These, said Mr. Elkins, made as good cakes of wax as anything that could be desired—just right for marketing purposes.

squeeze he used an iron bar 6 feet long, put it thru the heads of the jackscrews, and



A general view of the wax-rendering outfit with the slatted frames on the left. A great deal of work can be done outdoors in California, for there is no rain to amount to anything except during one or two of the winter months. Mr. Elkins stands on the left, holding the long bar, and Mr. Sweet, of the A. I. Root Co., who had come down to look over the machine, is on the right. The tin pans are shown in the foreground.

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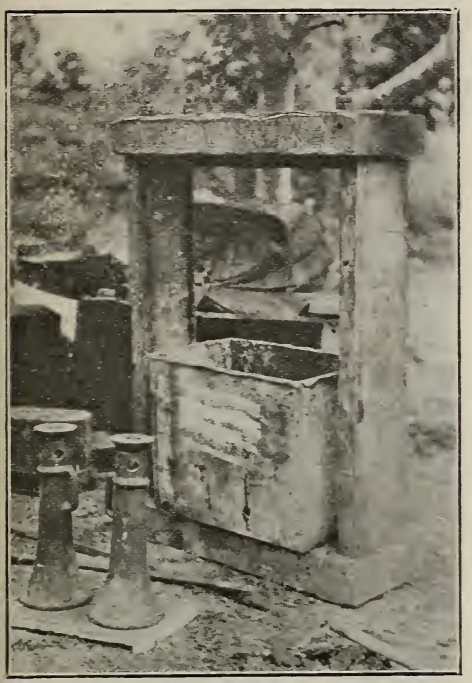

Mr. Elkins' giant wax-press. The framework is made out of three-inch plank one foot wide, and of suitable length. The whole is held together with four long bolts on each side. The squeeze or pressure is secured by means of large jackscrews that can be obtained at any large hardware store.

with this powerful leverage he put on all the pressure he could. One would think he would break the machine, but he didn't. Mr. Elkins believes in high pressure when it comes to wax-presses. When he got his work well organized, he said he was able to turn out about 600 pounds a day.

The other illustrations show the complete outfit—the wax-press and the big pile of frames from which he had rendered the combs. Where the frames were properly made he could use them over again.

Where the sages grow in Elkins Canyon, one of the prettiest canyons in all California.

Why Large Press Was Needed.

It is, perhaps, needless to say that such a large outfit would not be needed in an apiary where there had been no foul brood. When Mr. Elkins found his bees had disease he made up his mind to do a thoro job in cleaning. And clean up he did, for he melted everything, and now has only clean bees in his canyon. E. R. Root.

CRITICISM ON ROOT'S CELLAR

Objects to Intake and Chimney. Says Shape of Cellar Immaterial

Having read Mr. Root's interesting article on "How to Build a Bee Cellar," it would seem to me that he has omitted some important factors necessary in the construction of a cellar that will, under varying conditions, insure successful wintering.

First, if the chimney were built 30 feet or more in height so as to create a draft, the ventilation would be more economical and much more effective than by use of an electric fan. A chimney works automatically, the movement of the air increasing with an increase of temperature within the cellar; so with a larger number of colonies there will be a correspondingly stronger current, and if for any reason the bees should tend to become restless and generate an undue amount of heat, the increased current will automatically hold down the temperature. An eight-inch flue is about right for 100 colonies in a cellar 16 by 20 feet. It would certainly seem inadequate for 600 colonies.

If air is warmed its capacity for moisture is increased, and it, therefore, tends to absorb and carry off moisture. If the air from Root's warehouse contains a normal or an excess amount of water vapor and is passed into a cellar whose temperature is lower, the tendency will be toward condensation, making the cellar damp. After more than 10 years' experience in cellar wintering of several hundred colonies with an average loss of less than one per cent, I am of the opinion that there is no better way of supplying air to a bee-cellar than by means of a properly constructed sub-earth intake, which modifies the temperature of the air taken in without adding to its moisture. This intake should be at least eight inches in diameter for 100 colonies and correspondingly larger for a greater number. Of course, it should enter at or near the floor. The outlet into the chimney should also be from the bottom and on the opposite side or end of the cellar. I have both openings

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as shown in your figure, page 638, October Gleanings, but find the upper one of little use and now keep it closed.

I have found that with a bee-cellar under a honey-house, a few inches of sawdust serves the same purpose as several feet of earth over the top, and is more easily constructed. In cellars made to hold 100 or 200 colonies the shape of the cellar makes little difference, as it is easy to regulate if desired, and the temperature ordinarily need not vary more than two or three degrees during winter. E. S. Miller.

Valparaiso, Ind.

[Lengthening the chimney would, no doubt, be a good thing.—Editor.]

BEES, HIVES, AND TIME

Three Factors Besides Location That Affect Amateur Management in an Apiary

Location is admittedly the most important single factor in apiary management and to the professional beekeeper it is the only thing that really counts in his plans for the season.

In the case of the amateur, however, often struggling to get a start in beekeeping, there are three other things to be taken into account when giving him advice as to the best system of management; the number of colonies of bees he has, the amount of supplies and spare hives he has, and the time he can devote to his bees.

If he has plenty of bees, few spare hives, and limited time, he will do well to hold the colonies together as far as possible and thereby concentrate his efforts on producing honey. If he can be on the spot or near at hand, natural swarming will probably serve his needs and he can hive the swarm on the old stand and then gradually throw the full force of bees back with it by placing the parent colony first on one and then on the other side of the new swarm. Whether for comb or extracted honey this procedure will give a great deal of honey and a small amount of increase. If the beekeeper has to be away from his bees the same plan can be adopted by making shaken swarms whenever well-advanced queen-cells show that swarming is anticipated, cutting the cells to one a week later. If his time is very limited, he would be well advised to run for extracted honey, leaving it all on the hives till well ripened; but if the time is available comb-honey can be produced as well, perhaps better, by this system.

Mr. Sanders at work.

Suppose on the other hand, he is in the position of having but few bees and plenty of supplies. His better plan will be to concentrate upon increase, putting off till the next season his hope of getting much of a crop of honey. He will build up his bees to strength and then divide upon the nucleus plan, buying his queens to save the valuable three weeks that would be consumed in rearing and mating them. We shall remember Dr. Miller and his 56 colonies, made from nine in the spring, with the help of plenty of supplies, adequate time, and last, not least, Dr. Miller.

She's a Manitoba beekeeper, too.

In many districts there is a brisk local demand for bees, and further there have been so many disappointments in the package business that the local demand is likely to increase rather than diminish. The beekeeper is often perplexed as to whether he will do well to sell colonies or make more by keeping them. Generally speaking, it is a good thing to have enough bees to keep one's equipment fully occupied and producing, and to have enough equipment to keep one's bees adequately supplied.

A beginner will do well to get first a clear idea of how many colonies he could look after, how much increase he would like to make, and so on; and then plan.

Sturgeon Cr., Manitoba. H. Sanders.

SIFTINGS

J. E. Crane

ALMOST the first thing I did on receiving Gleanings for November was to look for "Stray Straws." Not finding them I turned to the editorials to learn of Dr. Miller's illness. May I speak for and hope with a multitude of others that he may soon be strong and well again.

* * *

After seeing our own bees at work, a year or two since, on wild carrot we can readily believe E. R. Root's statement (page 711) of the way bees work on the flowers of parsnips and celery where the conditions are favorable.

* * *

There is again much trouble in beekeepers' getting enough sugar for feeding bees. As there has been but little honey gathered in this section since July 20, it looks as tho there would be a heavy loss in bees from starvation the coming winter. We lost two or three before we began to feed in September.

* * *

H. B. Parks, on page 728, refers to the larvæ of the wax moths working on aluminum combs. On taking our own lone comb out of the hive the last of August and leaving it in a warm room, we found that the worms started on it the same as on wax combs, but of course, did not do as much damage as tho it was all wax.

* * *

Already we notice the demand for honey is on the increase, as people are calling almost every day for a few pounds of honey, quite content to take unfinished sections if they can only get it. There is very little rationing of sugar about here, as there is none at the grocers' to ration. Bottled honey is in greater demand by the wholesale grocers than for some time past.

* * *

"The winter entrance should not be wider than 2 inches by ⅜," says editorial, page 707. I am right glad that a small winter entrance is being appreciated for outdoor wintering in well-packed hives. The folly of making a hive warm on five or six sides, and then leaving a large entrance for the cold winds to blow in, has been apparent for some time.

* * *

The cause of the shortage of sugar is of great interest. Was it caused by the prohibition of alcoholic liquors or by the shortage of sugar last year or some other cause? There is reason to believe that prohibition has had much to do with it. Howard Van Tracey, an official of the Holland-St. Louis Company, declares that sugar is replacing liquor, and that the per capita consumption of sugar has increased from 84 to 104 pounds. If this is so we have little cause to worry; but if over 20,000,000 pounds of sugar or its equivalent in honey is to be added to our annual bill for sweetening, then beekeepers should let it be known that honey is better than sugar for this purpose.

* * *

That little experience related by Grace Allen, page 727, telling how she discovered a can of sorghum because "Honey" was printed on it in large type, should give beekeepers a hint as to labeling their honey. Whether on neat cartons or larger cases let the word "HONEY" appear in large, clear type so it can be read across the store or street; and you can add in smaller type, if you wish, "It is better than sorghum syrup or sugar or corn syrup or 'Americose,'" a new liquid of almost the exact color of a good grade of honey and about as sweet as glucose.

* * *

That description of Balkan bees on page 721, by Francis Jager, stirred my enthusiasm as much as reading about Italian bees did nearly 60 years ago. Think of bees thriving and filling their hives when there are no or but few flowers within six or seven miles, gentle withal and quiet on their combs and not given to robbing. How many Italian colonies could compete with those Balkan bees? What an advantage to have bees that will collect honey from flowers seven miles from home. Some Florida beekeepers tell us their bees will hardly go two miles for honey, and they have good Italians too. Doubtless the dry, warm, even climate of southern Europe has much to do with the distance bees can fly in those countries.

* * *

The United States Department of Agriculture informs us that a new sweet is being now manufactured in commercial quantities and sold at from seven to nine cents a pound, barrel lots. In addition to its being a sweet malt syrup, "it has a delicious flavor somewhat resembling honey, which adds much to its palatability and its value as a sugar substitute." * * * * "Malt sugar syrup looks very much like maple syrup. It can be used for everything that cane sugar is used for. While its use on the table may not be as convenient as sugar, it is a most excellent substitute for table use when sugar is not to be had, as it not only provides sweetness but is equal to sugar in food value." It is said that the breweries can be very quickly made over so as to be adapted to manufacture it.

The sample of Americose we have received may be malt sugar, which we found bees would take in place of honey, and it may prove of value for winter feeding.

A BIRD'S-EYE VIEW

Stancy Puerden

WHEN I went up in the air in September, literally not figuratively that time, the gentleman who has paid my bills for more than 20 years said, "I am willing to bet $25.00 you will tell your Gleanings friends about it." "No," I replied, "not that I wouldn't like to, but I fail to see how I could trail an airplane flight across a food page, do you?"

Perhaps another thing that deterred me from writing about it was the fact that my father, in alluding to my venture in the October issue, called me matronly and spoke of Gleanings and me as babies nearly 50 years ago. Now, father, you may take pride in the fact that Gleanings is getting on, and you may even tack on a few years, in a loose manner of speaking; but don't you know that women are different? You have been calling Gleanings and me nearly half a century old ever since we turned forty. Your habit of exaggeration pains me.

And how I hate that word matronly, an unreasonable feeling since I am proud to be the mother of three children. But somehow the word "matronly" conjures up a vision of a woman with a grim, determined face, a double chin and bulgy figure with a tight-fitting waist. A matron belongs in an institution, insane or otherwise, not a home.

But to return to my subject, it was Mary Roberts Rinehart's delightful article, "The Sky Is The Limit," in a recent Post which provoked me to leave the subject of food temporarily. When she wrote an account of a trip to Havana a few years ago I wanted to rise and say, "Now Mary, you are not fair. You have told all the drawbacks and omitted so many delightful features." You see I had just been down to Havana myself. Having just been up in the air too, I cannot feel that she quite does air travel justice. Why, I wouldn't exchange my little fifteen-minute experience for her four flights, stunts, long distance and all, for the simple reason that she evidently did not have half the enjoyment I did, altho I do covet those stunts.

I suppose everyone has certain beautiful dreams which come to them again and again from their youth up. I cannot remember when I was too young to dream of flying, of propelling myself thru space by will power, of soaring thru the air and viewing the landscape from above. Pictures of angels with their inadequate wings always fascinated me as a child. For years I have promised myself that when the children were old enough to get along fairly well without a mother I was going to have an airplane joy ride.

In August our nineteen-year-old son wrote back an enthusiastic account of a flight he had enjoyed, without our permission, in a hydroplane at Atlantic City. He told us the Curtis Company had taken up 100,000 people without a single casualty. Thereupon I began planning a future trip to the nearest Curtis field. And then came the county fair with a visiting airplane which was advertised to take up passengers.

When the Puerden family reached the flying field at the edge of town that September afternoon the weather did not look very promising. We watched one passenger soar away, and then it began to rain and we all went home and it occurred to me to wash my hair before we went back to our lake cottage, where we had been spending some weeks. Midway in the drying process, which I was facilitating by sitting before an electric fan, father came in and said, "When are you going up? It has stopped raining." Not having said I was going up, I made a rather bewildered reply which father, being more than a little deaf, seemed to take as saying I intended to fly immediately, and so he said, "I will go and notify all the neighbors. They will want to see you go up." The neighbors all being relatives, it struck me as rather indecent that they should take such pleasure in seeing me risk my neck. Then my two boys came in, and they and their sister looked so eager that I decided that they should think they had a brave mother for once, and I hastily pinned up that damp hair and announced that I was ready if they could find their father. Incidentally, if you want to dry your hair in a hurry let me recommend an airplane ride, without a helmet.

During the few minutes while the little preliminary details were adjusted I kept saying to myself, "I am at last going to have the experience that I have wanted all my life. This is going to be the realization of hundreds of dreams." Even the signing of the statement that I absolved the aviators of all responsibility did not trouble me. I was blissfully dazed. But the prospect of climbing to that inaccessible cockpit before a crowd was not pleasant. I need not have worried. My nearest relative by marriage picked me up and put me over the high side with as much sang-froid as if he were in the habit of lifting his wife into airplanes. As the assistant strapped me in he said, "Don't touch any of those levers." Evidently I showed alarm, for the pilot said reassuringly, "It will do no harm if they touch you. He just means you must not try to take hold of them." Did that nice boy take me for an idiot?

Then the assistant whirled the propeller, a mighty wind sprang up, we hesitated for a moment and then rushed lightly up grade across the field, gathering speed as we went. I had dreaded the bumps in that rough field; but there was not the slightest sensation of

jolting, as there is in an automobile on a rough road. It was so smooth that it was impossible to tell exactly when we took the air. It was glorious. It excelled all my dreams. Language is totally inadequate to describe the wonder of rushing thru the air, gradually circling higher and higher. I remember thinking, "If I never get down alive, at least I shall have been blissfully happy in my last moments."

Presently the pilot turned around, smiled sociably thru the celluloid wind shield and started a conversation. I wanted to tell him that altho his passenger might look insignificant, four people on the field below valued her highly and he better watch his driving. His voice came back quite distinctly above the whir of the motor, but when I attempted a polite reply there wasn't the slightest sound. That rushing wind must have forced my voice right down my throat. He had the advantage because his back was to the wind when he spoke to me. "Now we are going over your home," he told me. Sure enough, there was our house, directly beneath. We were flying comparatively low at that time and everything was beautifully distinct and distinctly beautiful. Sometimes I fret because the lawn is not mowed as often as it should be; but, from above, it and the shrubbery looked as trim and neat as one could wish. In fact, the town and surrounding country with its forest trees were more beautiful than I had imagined they could look.

Mrs. Rinehart said the California landscape was not beautiful from an airplane, that towns were hideous from above. Oh, Mrs. Rinehart, do come to beautiful Ohio to fly next time. You went up in the wrong state, or was it state of mind? Maybe that banana lunch gave you indigestion. I imagine I know where part of the difference was. Going up in an airplane flattens out a landscape amazingly. The beauty of Ohio will stand the flattening process. Her beauty is in her complexion, so to speak. California, whose beauty is largely in her contour, her mountains and valleys, probably suffers much from the flattening. Also I was fortunate enough to go up after an unusual amount of rain, for the season, and everything was luxuriantly green. California, after her rainless summer, was dry and brown except in irrigated spots.

And whatever may be said of other towns, Medina was anything but hideous from above. The houses were nestled among trees; the lawns were green velvet; shrubbery softened outlines; and if there were any untidy back yards, they were not in evidence. The farms cut up into fields of different colors and the roads converging in the little town gave the landscape a maplike look, it is true, but such a glorified map. Even foundries and manufacturing plants looked different and interesting. They tell me that, altho I was not quite the first Medina County woman to fly, I was the first to fly over my own county. I imagine flying over a country with which you are familiar is much more interesting than flying over a strange region. It is such fun to try to pick out familiar landmarks from above, and to watch them draw up together as you climb higher.

After being in the air some minutes, perhaps when we were at the highest (wasn't it a shame I never knew the altometer was right in front of me until I came down?), we seemed to be suspended motionless in space, between earth and sky, the landscape slipping smoothly beneath us, turning in an accomodating way to show its different beauties and occasionally tilting up on the right hand or left. It was difficult to realize we were rushing thru the air and the old earth was just as steady as usual. About that time the pilot said, "Now we are going over the field where we started." It occurred to me to gracefully wave my hand to let my friends know I had not slumped down in a faint. By that time I had discovered it was not necessary to keep my 117 pounds avoirdupois rigidly motionless in order to preserve balance. The machine seemed every bit as steady and dependable as our old family automobile. But as I attempted to wave my hand that afore-mentioned rushing wind carried it clear around back of me. It didn't matter. If I had waved a bedspread I don't suppose those little human insects on that field far below could have seen me.

The pilot seemed anxious to instruct me. He said, "Now watch the tail while we turn." I did. Then he showed me how he went up or down. Finally he said he was going to stop the motor. That was the culminating bliss of the whole 15 minutes. The swoop thru the air without the loud purr of the motor is like the soar of an eagle. If ever the Puerden family owns an airplane, I hope mufflers will be fashionable and the boys will not want to use the cut-out when they take mother for a ride.

One always has to come to earth after a beautiful experience and this was no exception. And I can bear witness that while it is joyfully thrilling to fly yourself it is not exactly joyful to stand on the field below and watch your husband and children fly, one at a time. Then is when your imagination misbehaves. When the great bird carries off your little twelve-year-old daughter, turning to smile back, you feel like Herod.

But they all came down safely, and if the family purse was light the family heart was still lighter.

Twenty years from now it may be as difficult to find anyone who has not been up in an airplane as it is now to find one who has not ridden in an automobile. Travel by water is necessarily limited to certain regions. Railroads cannot cross the ocean. But air encircles the earth and offers unlimited possibilities to travelers of the future, and I believe the time is not distant when we shall all consider air travel not only the most delightful but the safest.

Beekeeping as a Side Line

Grace Allen

SUCH an interesting sideliner I have just met! Yet perhaps that isn't quite accurate, either, for really I first became acquainted with him several years ago, but somehow didn't become aware of his sideline beekeeping activities until last week. At the outset, moreover, let me frankly admit the rather considerable meagerness of my present information. But he himself is so very interesting, so downright charming and lovable, that I cannot resist sharing him with all other sideliners.

And such a delightful background! in fact, you can't separate him from his background. It is a part of him. Whoever knows one knows the other. In the same quiet old village where his grandfather was vicar and lived and died, he himself, Gilbert White, was born in 1720; and there, except for a few young years during which he obtained his degree at Oxford (like his grandfather before him), and became a Fellow and then a Junior Proctor, he lived until his death in 1793.

Great things were happening during those years—even as in these; England lost the American colonies and gained India and Canada. But Gilbert White lived peacefully on in his tiny bird-haunted village, "more interested in the fate of his tortoise Timothy and the coming of his swallows, than in the struggles of European nations."

About 50 miles southwest of London, in the far eastern corner of the county of Hampshire, the parish of Selborne lies, with a "vast hill of chalk" and a sheep down and a high wood and, at the foot of the hill, "one single straggling street in a sheltered vale." This street and its houses is the village of Selborne. A parish of "stiff clays" it is and "warm crumbling moulds," of broad-leaved elms or "wych hazels," lovely beech trees, ancient yews, and vast and venerable oaks; of "infamous roads" and deep wells of "fine limpid water," which unhappily does not "lather well with soap!"

Near the church in the center of the village, in the days of Gilbert White, was an ancient oak with "huge horizontal arms," and around it were built "stone steps and seats above them" where on summer evenings old people "sat in grave debate" while the young people "frolicked and danced before them." (Oh, the eternal joy of youth in every generation and every land!) The monotony of winter in the isolated village was occasionally broken by weekly concerts—fiddles, flutes, hautboys, bassoons—"to the great annoyance of the neighboring pigs." "We abound with poor," wrote Gilbert White to a friend, "many of whom are sober and industrious, and live comfortably in stone or brick cottages. * * * * The inhabitants enjoy a good share of health and longevity; and the parish swarms with children."

There it was that the gentle naturalist lived so long and so quietly. No one noticed him much. He never married; so when occasionally he was without a housekeeper, he had "nobody to make whipped syllabubs." His days were spent in making observations (instead of syllabubs); taking down countless notes about all natural objects, birds, trees, reptiles, gypsies, cobwebs, rocks, storms; compiling lists of Birds of Summer Passage and Birds of Winter Passage, and writing his now famous letters on "The Natural History of Selborne," letters filled with such grace and indescribable charm that, like Walton's "Compleat Angler," they are now literature—and deathless.

After he had gone, and had been laid to rest by his grandfather near the old church by the still older yew tree, his fame began to spread. Admirers came visiting the little village he had immortalized, or, as we say today, that he had "put on the map;" but no one remembered much about him. One old woman, who was only a child of eleven when he died, remembered that "he was a quiet old gentleman with very old-fashioned sayings—very kind in giving presents to the poor;" while another villager said of him only that "he was thought very little of till he was dead and gone, and then he was thought a great deal of."

Only by the exercise of the sternest self-control, strengthened by a wholesome respect for the Editor, can I refrain from copying extract after extract from this old Natural History, written with the definite directness of the scientist, the ease and learning of the Oxford scholar and the quaint formal style of the eighteenth century; and revealing thru every line the gentle, rich, intensely interesting (because intensely interested) personality of the man. But here is one letter entire, tho by no means the most interesting, except for its apiarian squint.

"To The Honorable Daines Barrington.

"Selborne, December 12, 1775.

"Dear Sir:—We had in this village more than twenty years ago an idiot-boy, whom I well remember, who, from a child, showed a strong propensity to bees; they were his food, his amusement, his sole object. And as people of this cast have seldom more than one point of view, so this lad exerted all his few faculties on this one pursuit. In the winter he dozed away his time, within his father's house, by the fireside, in a kind of torpid state, seldom departing from the chimney corner; but in the summer he was all alert, and in quest of his game in the

fields and on sunny banks. Honeybees, humblebees, and wasps were his prey wherever he found them; he had no apprehensions from their stings, but would seize them *nudis manibus,* and at once disarm them of their weapons, and suck their bodies for the sake of their honey-bags. Sometimes he would fill his bosom between his shirt and his skin with a number of these captives; and sometimes would confine them in bottles. He was a very *merops apiaster,* or bee bird; and very injurious to men that kept bees; for he would slide into their bee gardens, and, sitting down before the stools, would rap with his finger on the hives, and so take the bees as they came out. He has been known to overturn hives for the sake of honey, of which he was passionately fond. Where metheglin was making, he would linger round the tubs and vessels, begging a draught of what he called bee-wine. As he ran about he used to make a humming noise with his lips, resembling the buzzing of bees. This lad was lean and sallow, and of a cadaverous complexion; and, except in his favorite pursuit, discovered no manner of understanding. Had his capacity been better, and directed to the same object, he had perhaps abated much of our wonder at the feats of a more modern exhibitor of bees; and we may justly say of him now,

* * * * Thou,
Had thy presiding star propitious shone,
Should'st Wildman be. * * * *

"When a tall youth he was removed from hence to a distant village, where he died, as I understand, before he arrived at manhood.

"I am, etc."

(Can anyone, by the way, enlighten me as to the lines White quotes in this letter? "Metheglin" sent me to the dictionary, where I learned it is "an old-fashioned beverage, usually fermented, of honey and water." Perhaps you knew that; I did not. But notice the derivation of it! From the Welsh "meddyg," meaning physician, and "llyn," meaning liquor—oh, the sick in Selborne! And is there, outside of poetry and bees, a subject with more fascination wrapped in it than philology—the study of language—of which be assured I myself know nothing at all. Indeed, the very word "philology" itself has an origin like a caress—from the Greek "philos," meaning loving, and "logos," meaning speech.)

Then there is another letter, written two or three years later, full of the most delicious comments on echoes, which this dear old Oxford scholar seemed usually to test with Latin verse! Dactyllic meter he found brought him back the most syllables on the echo, sometimes as many as ten, far fewer being returned when he used "slow, heavy, embarrassed spondees!" And should there be anyone today planning to play battledore and shuttlecock with old Latin phrases, with only an echo for a partner, let him take care to choose "a still, clear, dewy evening" when the air is most elastic, because the "weather and the time of day have a vast effect on an echo; for a dull, heavy, moist air deadens and clogs the sound; and hot sunshine renders the air thin and weak, and deprives it of all its springiness; and a ruffling wind quite defeats the whole." Midway this lovely, Latin-strewn letter, White speaks of a certain "strange notion" of Vergil's that echoes are injurious to bees, and right gallantly he refutes it thus:

"This wild and fanciful assertion will hardly be admitted by the philosophers of these days; especially as they all now seem to agree that insects are not furnished with any organs of hearing at all. But if it should be urged, that tho they cannot hear yet perhaps they may feel the repercussion of sounds, I grant it is possible they may. Yet that these impressions are distasteful or hurtful, I deny, because bees, in good summers, thrive well in my outlet, where the echoes are very strong: for this village is another Anathoth, a place of responses or echoes. Besides, it does not appear from experiment that bees are in any way capable of being affected by sounds; for I have often tried my own with a large speaking-trumpet, held close to their hives, and with such an exertion of voice as would have hailed a ship at the distance of a mile, and still these insects pursued their various employments undisturbed, and without showing the least sensibility or resentment."

Apparently he made no particular study of bees, as these are the only extended references to them I have found in the letters. But how blessed we are to be able to add to our treasure this quaint picture of the scholarly old naturalist blowing his large speaking-trumpet, close by his hives, "with such an exertion of voice as would have hailed a ship at the distance of a mile!" Yes, in his beekeeping, he was strictly a sideliner, this Gilbert White of Selborne. And how glad I am that at least in good summers bees throve well in his outlet, where the echoes were so strong.

* * *

WHEN I MET DR. MILLER.

Aged 88

Sometimes a moment drifts across our days
Gold-freighted, and upon us thereby lays
Eternal gratitudes; for, lo, it flings
Great gifts to us, rich, unexpected things
All go'd; and our dull pathways evermore
Shine in the memoried splendor like some floor
Trodden in olden times by crowned kings.

I saw your face, and such a moment came.
The common air was glory and a flame.
Your presence made my heart to understand
The goodly pride I felt to touch your hand.
Of gifts you gave unknowingly to me
A chain I wove and wear it royally—
Each mood and memory a shining strand.

I hold that moment yielded me a gift
Before which heart and soul and eyes may lift.
Thru all this life wherein we bungle so
The noblest, lordliest thing that we can know
Is goodness such as yours, and love of truth,
Aliveness, and old age surpassing youth!
God let you live a hundred years or so!

FROM NORTH, EAST, WEST AND SOUTH

In Northern California.—In regard to the closing of the season little can be added to our November correspondence. In the northern part of the State star thistle and curl yielded slightly more honey than was reported last month, and bees are going into winter far better than a year ago. During the year disease spread quite a little and will be a serious factor next spring. The central part got a light aphid flow thruout October, and here bees have gone into winter in excellent shape. South of Merced County, however, and extending to the Tehachapi, a vast expanse, that was once our banner honey section, always producing from 30 to 60 cars of honey, fell down this year to a mere production of about 6 cars. At the beginning of the year single-story colonies were selling at $15.00 to $12.00 per colony. Now hundreds of colonies—two-story ones—are being sold at $4.00 to $5.00 per colony.

The three valley local exchanges have been solving their first year's work in excellent fashion. The matter of assembling and grading the honey has been a new task and for the first year has been handled very creditably by the local boards and secretaries, in conjunction with the State Exchange. The problems of assembling, especially, are different in each local and must be solved by the directors in charge. In the Central Valley local it is becoming more and more evident that there is economy in establishing but two or three assembling points; and, furthermore, that honey should be graded (this holds true for all locals) immediately upon its delivery by the producer to the warehouse. There is a two-fold purpose in this: first, the grader can do his work faster and more accurately for the reason that the honey is in the liquid state; and second, when the honey once receives the official grade the State Exchange can then definitely base its 60 per cent advance on the honey. Heretofore when the producer has delivered his honey in the northern locals he has informed the local secretaries the grade which he believes his honey to be, and the State Exchange has advanced on this basis. This practice might be abused by the producer since the advance basis for the different grades varies several cents per pound. If the honey is graded upon delivery, it will, of course, mean one or two days' delay on an advance to the member; but, on the other hand, it is much better business in that the State Exchange becomes more secure. It also enables the Exchange to get a better line on the crop as it is being produced. This can be facilitated further if the producer will always be prompt in delivering his honey as it is taken off.

The State Exchange has sold but half the crop of its members and it appears that this has been a wise policy in view of the fact that during the past few weeks honey has stiffened appreciably. It will continue to stiffen as indicated by the condition of the sugar market. Sugar stocks are in excellent shape and new high records are being recorded. The prediction today is that raw sugar will sell next year at 12 cents even if the equalization board be continued in office. It seems to be impossible to curtail the consumption of sugar owing to our "dry" nation where sweets are being so generally used as a substitute for alcohol. During the first nine months of the year the domestic consumption of sugar increased 18 per cent owing chiefly to wartime prohibition since July, as against a normal pre-war increase in American consumption of about 4 per cent per year. Again scarcity has been further increased by sending one-third of the Cuban sugar crop to England—a matter sanctioned by the equalization board. If we watch the sugar market we know pretty well the trend of the honey market. And now let us watch our bees closely next spring, for all the extra surplus we produce in 1920 will be worth while.

Modesto, Calif. M. C. Richter.

* * *

In Southern California.—As the season advances, more and more concern is felt among many beekeepers about the feeding of their bees. At present it is impossible to get sugar in any quantity. Some few apiarists have honey that they can feed. But even with a low grade of honey on hand, most of us hesitate about feeding it, unless it is an absolute necessity, as so much has been written about the danger of feeding honey where there is the slightest probability of there having been any foul brood in the apiary. There are some who are always ready to take a chance, but most of us prefer to be very cautious. Fifty clean colonies might do as well next spring as 100 diseased ones. I believe the bees over southern California in general are as light in stores as I ever knew them to be at any time during the past 25 years. One of our best beekeepers says that it will take 20 tons of sugar to winter properly the bees in his locality. And I am not sure that his locality is so much worse than some others.

Now, about feeders and the feeding of weak colonies. I have used many methods and now begin by cutting all of the colonies down to one story. I remove the two outside combs. Then I put, in their place, four common milk cans, which hold about one pound of syrup each. These cans contain straw or pieces of wooden sticks for the bees to alight on. I used excelsior at one time but found that many bees would be under and in the excelsior. When the cans were refilled, these bees would drown. The feeding-cans may be left in the hive until the colony needs more room in the spring.

FROM NORTH, EAST, WEST AND SOUTH

It is a great satisfaction to have one's experience verified by a man like J. E. Crane; that is to say, that sugar syrup fed directly in the combs will granulate much quicker than that which is fed in feeders and is moved to the combs by the bees.

The Riverside District Fair was the most successful ever staged in our county seat. All lines of agriculture were well represented. The Riverside County Beekeepers' Club had a splendid exhibit and again took the first prize with the San Bernardino County Club a close second. The Riverside Bee and Honey Company had a fine exhibit of all kinds of hives, fixtures, etc.

It is now two weeks since we had any rain. The grass has started over most of the lower valleys. The nights are cool, with occasionally a light frost in the more exposed places. Resin weed is reported as furnishing considerable honey for winter stores in a few very favored localities, but over the vast majority of ranges nothing at all is coming in. If this proves to be one of the seasons when the willow, manzanita, and eucalyptus yield, some nectar should come in from these sources during December, January, and February. Colonies with less than 10 pounds of stores may not survive, should the next two months prove cold and unfavorable. Many colonies are found at this writing (Nov. 5) with little or no brood. Usually our queens begin laying quite lively during December and by the middle of January have from three to five frames of brood.

The annual meeting of the Orange Belt Honey Producers' Co-operative Exchange was held in Riverside on Nov. 3. Secretary-Manager E. W. Horne reported $65,000 worth of honey sold during the year and the Exchange in a most prosperous condition. Considering the fact that this has been one of our very poor honey seasons, it is a most satisfactory report. The election of directors resulted in the re-election of R. Powell of Riverside and L. L. Andrews of Corona for a three years' term. H. A. Wagner of Redlands, E. W. Horne of Riverside, and J. A. Mack of Rialto are the hold-over directors. Chas. B. Justice, manager of the State Exchange, gave a talk covering at length the workings of the Exchange since its inception a year ago. L. L. Andrews.

Corona, Calif.

* * *

In Michigan.—Arthur Sharrow of Plymouth, Mich., has taken a position with the office of the State Inspector of Apiaries. Mr. Sharrow will spend the winter traveling with Mr. Ewell in the holding of the two-day beekeepers' schools which are to be held in most of the counties of the lower peninsula. The following is the schedule of the Beekeepers' Schools for the month of December: Dec. 2-3, Gladwin County; Dec. 4-5, Ogemaw County; Dec. 6-8, Genesee County; Dec. 15-16, Branch County; Dec. 18-19, Charlevoix County; Dec. 20-22, Antrim County; Dec. 30-31, Grand Traverse County. The beekeepers of those counties mentioned should keep in touch with their county agents, as they have charge of the schools and make all arrangements for the place of meeting and for the local advertising. For any information relative to the schools, call on your county agent.

The Michigan Beekeepers' Association now has 618 members.

On Oct. 28 a number of colonies were opened and it was found that drones were more or less numerous in all the colonies. This was indeed surprising, as drones are rarely seen here in colonies after the middle of September. On Nov. 3, it became necessary to open several colonies for a careful examination. In every colony opened brood was found in all stages, and in one colony eggs were found on three frames. All colonies were queenright. No feeding had been done for several weeks previous to this examination. This has been a unique experience, which cannot be attributed to the weather conditions as this has been a normal autumn. Any light on this subject would be appreciated.

The annual Convention of the State Beekeepers' Association will be held in the Chamber of Commerce, Lansing, on Dec. 9-10-11. The first session will begin promptly at one o'clock on the afternoon of the ninth. The following is a part of the program: "Experiences with Combless Packages," D. O. David, David Running; "A Season's Work with the Bees," O. H. Schmidt; "Two Queens in One Hive," Arthur Sharrow; "Honey Production," R. F. Holtermann; "Getting the Maximum Yield," Kennith Hawkins. Report of the Committee on Co-operative Buying and Selling. E. R. Root of Gleanings and C. O. Yost, State Inspector of Indiana, will be present but their subjects cannot be announced at this date. There are several other speakers whose names are withheld now but will appear on the printed program. The banquet will be held on the evening of the tenth. The following is a list of Lansing Hotels: Porter, Downey, Kerns, Detroit, Fleming, Lennox, Butler, and Reogrand. These hotels are named in the order of the cost for accommodations, the most expensive being named first. Try to arrange to have a room reserved by correspondence in order to avoid inconvenience upon arriving.

East Lansing, Mich. B. F. Kindig.

* * *

In Texas.—The aftermath of the storm of September 14 reaches here in reports from the commercial beekeepers of that district. One party, 130 miles from the coast, but in the line of the storm, lost one outyard valued at $2,000 and as yet cannot

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reach three other of his yards. One of the well-known queen-raisers tells of wading and swimming for miles to salvage the wreck of his outyards.

Thru a period of years many attempts have been made to find plants of such a nature that it would pay to cultivate for honey production alone. So far it seems that here only horsemint and sweet clover will pay. It is doubtful if sweet clover would pay if it were not also a soil-builder. This year three new legumes from India were tried, one of these, *Cicer arietimum*, bloomed from May 18 until June 19, but no bees visited it. A second, *Cajan Indicum*, which is said to be a heavy yielder in India, grew very large and commenced to bloom October 15 and is now (November 6) in full bloom. Bees are working it very heavily. If this plant proves hardy or its seeds ripen, it will be a valuable addition to our flora as it will extend the length of the honey-gathering season two weeks. The third, *Crotalaria candicans*, has not as yet bloomed. It was our pleasure to have Dr. David Fairchild, Agricultural Explorer, Department of Agriculture, who found these plants in India, visit this station November 3 and 4. The fall sowing of horsemint and sweet clover is in first-class condition.

Every successful beekeeper is an observer of Nature. Here in the Southland where winter is almost unknown it is very interesting to observe the close relation which exists between insects, birds, plant, and weather changes. October 8 to 10, even tho partly cloudy, was a good nectar period. The bees seemed to work more rapidly than ever before. Broom weeds, bonesets and asters were in profuse bloom. Large flocks of ducks and geese passed toward the south; meadow larks, blackbirds, sparrows, warblers, and even humming birds came from the north, not in flocks, but in swarms. He who was weatherwise knew what to expect. The morning of the 11th the norther arrived, and a temperature of 54 degrees, accompanied by a heavy rain, gave us the first taste of winter.

W. E. Jackson, who has been in charge of the field work of foul-brood control for the past three years, has resigned and leaves the work November 15. Mr. Jackson will engage in commercial bee work in Oklahoma.

The extension course in beekeeping given by the U. S. Extension Service Bureau of Entomology and A. & M. College of Texas co-operating will be held December 15 to 20 at San Antonio. Messrs. Phillips, Demuth, and Sturtevant, assisted by men from the College, will give the program. The extension department and experiment station are endeavoring thru their mailing lists, county agents, and bee inspectors to place an invitation and program of this meeting in the hands of every beekeeper of the State. M. C. Tanquary, the new entomologist of the experiment station, will attend, and as one of the entertainment numbers will give an illustrated lecture on "Three Years in the Arctic." This is an account of the expedition sent out by the University of Illinois to Crocker Land.

In the last month there has been a decided change in the condition of the bees. Prior to and immediately after the Corpus Christi storm the prospects for a fall honey flow were never better. The storm itself damaged the honey plants to a marked degree, but the five weeks of rain which followed completely stopped the working of the bees. From September 19 to October 20 seven and a half inches of water have fallen, which is over twice the normal rainfall for this period. Immense areas of broom weed have bloomed and gone out of bloom without having been touched by the bees. Central Texas suffered more than the eastern part. Reports from the east of the Trinity indicate that there has been enough fair weather to permit the bees to store a nice surplus. The chapparal of southwest Texas responded to the rains, and many plants which usually do not bloom out of season bloomed with the others. Huijilla and three varieties of catclaw were in bloom as late as October 26. Because of rains and cold this belated blooming period was of little value. The conditions are not serious now, but if the rain and cloudy weather continue much longer many beekeepers who extract closely will have to feed.

Director B. Youngblood of the experiment station has announced that M. C. Tanquary, Ph. D., will be the new entomologist to the station and as such will be State Entomologist and Chief Inspector of Apiaries. Dr. Tanquary is now assistant professor of entomology in the Kansas State Agricultural College at Manhattan and has charge of the investigation of insect pests on staple crops in the experiment station. The Doctor will take charge of the work in Texas about the first of the year, and, as he is a beekeeper, he will be doubly welcomed by the beemen of the State.

There are still quantities of honey that can be purchased in Texas. Beekeepers in the middle-west States who must buy feed for their bees should investigate this supply. If you are buying feeding honey you can obtain honey which is accompanied by certificates of freedom from disease germs. Gleanings for November says, "Those having honey known to be free from American foul-brood germs will find it the part of wisdom to use this for feeding their bees, no matter how high the price honey may now bring." The sugar now on sale, owing to the haste to supply the demand, is of inferior grade and is almost as much of a risk

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as honey bought on open market. The above supply of honey, which can yet be had at a reasonable price, should be investigated by bee-feeders before feeding raw sugar.

College Station, Tex. H. B. Parks.

* * *

In Ontario.—While weather reports continue to tell us each day of the very early winter in western Canada, and I presume the Northwestern States as well, here in Ontario we are having an unusually warm fall to date. Today (Nov. 10) I noticed geraniums and other garden flowers still blooming and showing no signs of having been injured by the few light frosts we have had so far. Certainly this is an unusual condition for us at this season of the year. I also noticed, when walking over a pasture field today, dozens of dandelions in bloom.

With mild weather and sufficient moisture to promote growth, fall wheat and the clovers in general have made a great growth this fall—in fact, some wheat is reported to be shooting for head, so rank has been the growth. But clover looks very well indeed, and the acreage in most of localities where I have been lately seems to be normal.

Sweet clover where grown for seed has given some very heavy yields, and, as the price is high, in many cases the yield for one year has been double the normal selling price of the land. A ten-acre field, two miles from our home, yielded seed that sold for $2,300.00 a few days ago. This is only a sample of other returns. Needless to say, hundreds of acres of sweet clover will be sown next spring, as I personally know of many farmers who have purchased from 5 to 20 bushels of seed for next spring's seeding. Just how long the boom for sweet clover seed will last is a question; one firm's representative told me a few days ago that it was good for three or four years yet. This firm buys a great quantity of all kinds of clover seed each year. Another large buyer told me that two years would skim the cream off the business as far as high price for the seed is concerned. I do not attempt to make any guess on the subject, but it looks as tho beekeepers in many sections will have an opportunity during the next few years to test out sweet clover as a honey plant. While we shall welcome any real addition to the honey resources of the country, personally I will still cling to alsike as the greatest asset of the beekeeper for the present and the future. Its advent into the clover regions has been worth more to the beekeeping industry than all other sources of nectar combined--at least, that is the opinion of the writer of these pages.

Honey markets seem to be a bit firmer than 10 days ago, caused no doubt by the great sugar shortage and the advancing price of this staple. Buckwheat seems to be affected most, as it is quoted half a cent to a cent higher in the wholesale market. Buckwheat honey is much cheaper than last year compared with clover honey; and just why is hard to understand, as the crop is the lightest it has been for years. Claims are made that a large quantity was held over from last year, but I have not been able to verify these claims one way or the other, reports having been very conflicting.

The men in charge of the apiary development work both at Guelph and Ottawa have in the past given valuable help in many ways, but for the immediate future it seems to a good many of us that a new line of work should be taken up in addition to the regular duties now attached to the positions. I refer to the matter of large queen-rearing apiaries where Italian stock highly resistant to European foul brood could be produced and sold to beekeepers at cost or even above that, as beekeepers would not complain if sure of getting the goods. This plan would hurt no one engaged in the queen-rearing business, as all can sell all the good queens they can produce. European foul brood is cutting very badly into the production of honey in many localities, and many queens bought promiscuously turn out to be useless in standing up against the disease. Many localities cannot produce purely mated stock, and that is where the government yards would be beneficial in being able to send stock of known resistant traits to requeen when necessary. Some objections have been raised to the plan; one, as I remember it, was that pure mating could not be obtained near Ottawa where the Dominion apiarist is in charge. This could readily be remedied, for it would not take much funds to secure some location where few bees are kept, and the few that are near could soon be Italianized. The grants necessary to form a good queen-rearing apiary and pay for proficient help in managing the same, would be very small—indeed, it could be made almost if not quite self-supporting, as all queens produced could be sold as fast as ready for mailing, if beekeepers were assured of getting good stock. Much criticism has been made privately, if not in public, in regard to the apiary work at experimental farms being on too much of the faddist idea instead of the really practical—this, in particular reference to the work at Ottawa. Whether this criticism is justly founded or not I do not propose to say just now; but one thing I do feel sure of, is that a work like what I have briefly outlined would be the most practical and useful that could be undertaken, and the men that go ahead and make it a success, will have the gratitude of hundreds of beekeepers. I understand that the workers at Guelph are in favor of the scheme so far as it is practical with the material they have at hand, and I hope other leaders or teachers feel likewise.

Markham, Ont. J. L. Byer.

It's fine beekeeping country along the Allegheny River, Penn.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Why "Pure Honey?"

In advertisements, labels, and circulars pertaining to honey, the word "Pure" is frequently and inadvisably used. Too often do we see or hear the expression, "Pure Honey." As tho honey might be impure!

Nobody is supposed to manufacture or adulterate honey, so why announce that any honey is pure honey. The one who adulterates honey should be branded with a hot iron, showing he is an outcast. That we know. But we have pure-food laws; and the word "honey" is sufficient to let people know that honey is honey. Why should anybody announce that his honey is pure? The expression announcing "pure honey" in advertisements should be eliminated, and all labels bearing the legend of "pure honey" should be destroyed.

There may be some who might take issue with me upon this subject, who might urge that in these days of imitations and substitutes there may be cases of adulteration of honey; but even then it would be unwise for a producer or dealer in honey to announce that his honey is pure. By all the gods at once, it is presumed to be pure!

In the British Museum there is, or was, an Assyrian inscription, translated by Professor J. Helevy, showing a Babylonian recipe—the only known specimen of an Assyrio-Babylonian prescription extant — in which the expression "pure honey" was used.

Yet there is no evidence that in the Babylonian days there was any kind of honey except pure honey; and today there is no other kind of honey except pure honey.

Why do labels and advertisements continue to use the hackneyed expression alluded to?

C. M. Elfer.

St. Rose, La.

Holtermann Answers Dr. Miller.

Our good friend, Dr. C. C. Miller, under "Stray Straws," page 586, September Gleanings, very kindly and gently gives me to understand that it is considered an act of cruelty to destroy worn-out and almost worn-out bees. He also states that it is an easy matter to separate such bees from young and vigorous bees.

To take up the last point first, let me say that I do not consider that a successful method of separating such bees. As soon as a bee locates herself she is liable, if moved away, to return to the old stand, and the removal of a hive to a new stand endangers the return of **every** bee that has located herself. I do not want to lose such bees and cannot see the solution to the problem.

As to the first point, I am a man who strongly dislikes to kill a chicken, and I would rather not eat the chicken than kill it. I admit this is a matter of sentiment. Then for years I wouldn't, and now will not, throw a hook into the water to catch a fish; and to put a worm on a hook when the worm is alive (which it always is) is revolting to me; and as to minnows on a hook to catch a fish—well, I will say no more. When I see poor flies struggling on sticky fly paper, I am reminded that there is still much of the savage about us. Our boys used to chase squirrels and smoke them out of apple tree trunks, and I said, "Why not leave the poor things alone?"; but when the bees were packed in cases for winter, and these same squirrels gnawed holes (for they always make two in a case) in the cases and chased one another thru the cases, thus disturbing the bees and endangering their lives, I paid a boy 25 cents for every squirrel he shot near the apiaries. For the same reason, I would have no hesitation in quickly destroying the old bees of a colony; in fact, I would consider I would lessen their sufferings. I would consider it just as legitimate to kill them as to kill any stock on the farm, and I do not think that good, sound reason can back up opposition to the plan.

Brantford, Ont. R. F. Holtermann.

Got a Big Crop in Chicago.

My parents gave me on June 5, 1919, a hive containing bees for a birthday present. I put on 10 shallow frames, which were filled in 14 days with beautiful white clover honey. I then put on a comb-honey super and the bees worked so fast on sweet clover I added a third super underneath. These were filled the quickest I have ever seen bees work. The hive was so crowded I put on the fourth super; and by Aug. 25, that was filled, making a total of 182 pounds of honey, worth 45c a pound or $81.90—a handsome birthday present.

The conductor boy and his birthday gift.

I consider this a wonderful record owing to the fact that the bees are in the city limits of Chicago, surrounded by factories, and have to fly far for their stores. A school yard is only 100 ft. from the apiary, and a factory of 900 employees across the street; but I have never

HEADS OF GRAIN FROM DIFFERENT FIELDS

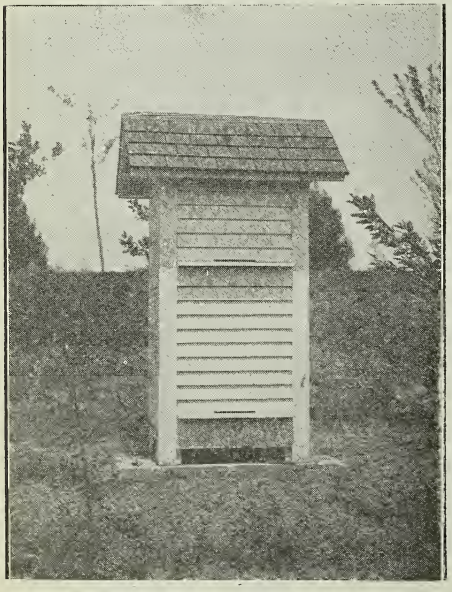
had a complaint. I am a conductor on the city cars and find ample time to devote to my bees. I consider it a very profitable and interesting sideline and find among the car men a ready market for all the honey the bees produce.

As we have recently secured the eight-hour day, father and I are planning to run an out-apiary next year.

Chicago, Ill. Tim O'Donnell, Jr.

Old Refrigerator Used for Hive.

This hive I made out of an old refrigerator. I boarded it up on the inside so that I can use standard Langstroth frames in it. The bottom compartment holds 20 full-sized frames and a super, and



Refrigerator remodeled into a hive.

the upper compartment 10 full-sized frames and a super. I put the frames in crossways, and have a glazed sash next to the frames so that I can see the bees by opening the door behind. Frank Koupal.

Ord, Neb.

Criticises Phil Franklin.

After reading the Backlotter's story on page 652, October Gleanings, in regard to wintering, it makes me feel like saying something in reply. I have seen people before now who thought everybody had brains but themselves. I hardly know which is the worse—that kind of man or one who thinks nobody has any brains but himself. Possibly, so far as making a success of anything is concerned, it is six of one and half a dozen of the other.

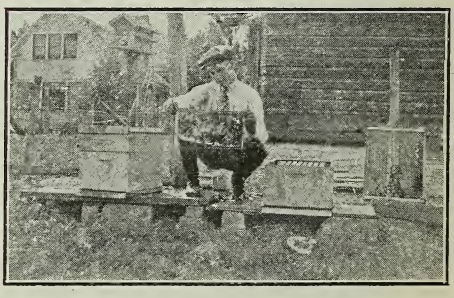
But what I want to say is this: After this gentlemen beekeeper had read the different ways of wintering published by some of our best beekeepers in the country, and in different States and sections, and had thought of his own State and section (which he should know all about), I think he could have doped out a method that would have suited him and assured him greater success than trying to copy after every State and country that he had been reading about.

A beekeeper of Canada or Wisconsin can tell his neighbor beekeepers how to winter their bees better than he can tell some one in Maryland or some other State. So I think that if Mr. Franklin had studied his own locality, and compared it with that of some other States, he would not have been in such a puzzle. N. L. Jones.

New Church, Pa.

A Wide-awake Bee Club.

The Boys' and Girls' Beekeeping Club of Douglas County, Neb., is one of the best on record. On June 5, members of this club, their ages ranging



Taker of the first prize.

from 10 to 18 years, began beekeeping with one frame of brood, bees and queen in a modern hive. On Sept. 6, the contestants'

Apiary of the taker of second prize.

HEADS OF GRAIN FROM DIFFERENT FIELDS

work was judged. Leonard Mangold of Bennington received first prize.

From the one-frame nucleus, he produced two strong colonies of bees and 24 pounds of comb honey. The cost of his equipment to begin with was $12.50. The 24 pounds of honey would easily sell for 40c a pound, amounting to $9.60. The two colonies of bees are easily worth $20.00, making a total net income of $17.10 for the first year's work in beekeeping. M. D. Vreeland, Florence, won second prize; T. E. Grau, Bennington, third; Eggert Ohrt, Irvington, fourth; and C. Clinton Dunn, Omaha, fifth.

A larger club is anticipated next year. It is the object of this club work to encourage boys and girls to keep a few bees and handle them in the most up-to-date manner. It is possible for those youngsters not only to produce sufficient honey for home use, but make money besides.

Council Bluffs, Iowa. A. H. Dunn.

Brood Diseases.—By Bill Mellvir

With apologies to Walt Mason.

Beekeeping's going to the deuce; diseases punk are breaking loose and microbes swarming by the peck now get the young bees in the neck. *Bacillus Larvae* by the ton is watching for a chance to run into our hives to kill the brood and change it into buzzard food. *Bacillus Pluton's* in the air, it lurks about us everywhere, and billions of these yellow beasts, on larvæ plump, are having feasts. This poor old apicultural boat, these days can scarcely keep afloat, and these destructive microbes punk will soon convert it into junk. Such tales as these I hear each day from some old time bewhiskered jay who's always shooting off his lip about the sinking of the ship. Cheer up! We heard the same old knocks when Langstroth steered us by the rocks and Quinby told us how to cure diseases by a treatment sure. In Middle Ages knockers beefed and said, "The sails must now be reefed, for foul brood's coming to destroy the bees and take from life its joy." And Virgil heard the same old breeze when he was working with his bees, and writing with the greatest care his book on bees, that dope so rare. When Aristotle first described the brood diseases, knockers cried: "The stuff is off, it's no use now, there'll be no honey for our chow." And Noah heard it as he nailed on moving screens that night he sailed. They said: "Why take the bees along when brood diseases put them wrong?" I fancy Adam raised a fog and kicked the cat and licked the dog, because a pesky brood disease was working havoc with his bees. Our ancestors who lived in trees no doubt got off the same old wheeze. In gibbering monkey talk they whined of brood diseases, every kind. This good old ship will plunge ahead in spite of bugs and microbes dread; in spite of rusty grumbling hicks who register so many kicks. So let us put our hammers down, let's shed that unbecoming frown, and fight the microbes like a man and steer the ship the best we can.

This is Bill Mellvir himself.

GLEANED BY ASKING

Icna Fowls

QUESTION.—This past summer I had some American foul brood, and, of course, cleaned the hives as outlined in A B C, with apparent success. Now I don't find anything as to whether drone- and queen-cells are affected by American foul brood, but I found both diseased. I put a frame of brood in a queenless foul-brood colony and eight of nine queen-cells were dead. Also some of the drone-cells were affected.

Nevada. G. H. Shippler.

Answer.—In both American and European foul brood, drone larvæ and queen larvæ may be affected. It is quite unusual, tho, to have so large a per cent affected as in the case of your colonies. This reminds us of an interesting incident that came to our attention this summer. A beekeeper grafted from what seemed a perfectly healthy colony, but which in reality had American foul brood. The next day he discovered what he had done and so watched developments. Part of the queens hatched all right, but a great share of them died after the cells were sealed, and it was found they were very ropy. Now those larvæ were no more than 24 hours old when grafted and must have been infected at that time, and yet developed until after the sealing of the cells before dying. The contaminated cells in the wooden cups were removed from the hive, and the nucleus that contained them showed no signs of disease five weeks later, at which time we learned of the incident.

Question.—My queen bees mysteriously disappear. I have had 30 colonies queenless this summer, and I am very anxious to know what has caused this trouble. Some of the colonies I had to requeen three times, and in each instance the queen disappeared after laying eggs for a period of two or three weeks. I allowed some of the colonies to rear queens for themselves; but not one of these queens matured into a laying queen, and I was finally forced to buy queens to requeen. I wish you would help me solve the mystery. It has given me a whole lot of extra work, besides a loss in money.

New York. Edwin W. Frisby.

Answer.—Such a great loss of queens as you report we are unable to explain, but have had a number of similar reports from other beekeepers, some of whom think it is the disappearing disease. In our own personal experience with that malady there was no loss of queens. Perhaps some Gleanings reader may be able to throw a little light on the question.

Questions.—(1) If the syrup should be poured in the Doolittle feeder, would there not be danger of bees drowning? (2) How are bees prevented from making flight during a warm spell when the ground is covered with snow? W. L. Wright.

Connecticut.

Answers.—(1) If you fear that the bees may drown in the syrup, just throw a little loose grass or pieces of cork on the surface of the syrup. (2) Usually when snow is on the ground it is too cold for the bees to take a flight, but sometimes they do fly out and become lost in the snow. The bees that are lost in this way, however, are much fewer than the number that would be lost if the entrances of the hives were closed, for this stirs up the bees and gets them excited, increases the temperature of the hive, and brings about disastrous results.

Question.—I packed my hives, two in a case, giving each four ⅜ and one ¾-inch holes thru the outer case. I am a little doubtful as to the *inner or hive entrance,* whether it should be *left open the full* width of hive or a contracting cleat used.

Pennsylvania. Earl B. Hunt.

Answer.—The inner or hive entrance should be left open the full width of the hive.

Questions.—(1) October 5 I bought a box hive, heavy with bees and honey. I drummed the bees out into a ten-frame hive, with old drawn combs, except the center combs which are newly drawn, as I understand the queen likes them better. After the queen was in the new hive I stopped drumming and proceeded to put a queen-excluder "b" over the hive "a" to keep the queen below. Above this I put a bee-escape board "c" with the escape "d" removed so that the remaining bees, and later the young brood, could go below and also back and forth from and to the box hive "e." I was trying to get the honey transferred from "e" to "a" for winter stores. Was that a good way to get the honey carried below? (2) Would it have been better to put the box hive with the contracted entrance in front and let them rob it out? (3) Do you think it would have been worth while to wait three weeks for the young bees to hatch out? The queen had not been laying heavy at that time.

New Jersey. C. Boudewyns.

Answers.—(1) Dark combs are greatly preferred by the queens as well as by the bees. Because of the cocoons left inside the cells, the old dark combs are much warmer during winter than are the new ones. In the plan that you use it would have been much better, had you left some brood below in hive "a"; otherwise, the bees might, on a cool night go above into "e" to keep the brood warm and not stay with the queen in "a." We have known queens to perish from this very reason. After the brood has hatched from the story "e," the bees will quite likely carry the honey down below; but, in the case of some colonies you will find that they are occasionally reluctant to do so. In such cases we have found it a help to place an empty body between "a" and "e." (2) We do not like your idea of allowing the bees to rob out that hive, for, in such a case you would lose all of the brood in the hives; and, more than that, it is not good for the bees to become so excited and stirred up in the fall. Also, if there chanced to be any foul brood in the neighborhood you certainly would not want the bees to get to robbing; for, if they once got started, they would be likely to find the foul-brood hive and rob that before they finished their

rampage. (3) In case there was but little brood in hive "e" you could probably have hurried matters up considerably by placing hives "a" and "e" both on a platform, leaving them so arranged that the bees could enter "e" only thru "a." If this could have been done the bees of "a" would soon have robbed out "e."

Question.—Is it common for queens to lay more than one egg in a cell? S. H. Hailey.
Tennessee.

Answer.—Queens often lay several eggs in a cell when they become old and practically worthless, but even a good queen may lay more than one egg in a cell when she first begins laying. If she continues doing this, however, she should be discarded and a better queen introduced.

Question.—Is there any satisfactory dip that can be used for bottom-boards? If a dip that is penetrating is used, it would eliminate the painting of the joints before nailing. I think this joint-painting pays. Geo. Harrison, Jr.
Maryland.

Answer.—In our own experience we have never found it necessary to paint the joints in the bottom-board. In fact, we have found that it hardly pays to paint them at all since they are not exposed to the weather, and we cannot see that those painted last any longer than those unpainted.

Question.—Do you know of any blind men who are in the bee business? If so kindly send any information you have in regard to them. I am trying this business for an experiment.
Alabama. Wm. C. Smith.

Answer.—You doubtless know that Francis Huber, the Swiss naturalist, who lived 1750-1831, made many valuable observations concerning bees. He lost his sight completely when a young man. With the help of his servant, however, he made many valuable observations and experiments with the bees. It has been said that Huber was probably a better apiarist because of his blindness. We are unable to give you the address of any blind beekeepers, but possibly some of our readers may be able to do so.

Question.—I introduced a young Italian queen into a nucleus. The bees accepted her and she started to lay. In about three weeks the bees started queen-cells. I found the queen on a frame of brood, but she was very feeble and instead of being yellow she was almost white. What was the matter with her? Ervin Hogarth.
Ontario.

Answer.—We frankly confess that we do not understand what could possibly be the trouble with your queen. In fact, we have never heard of a similar instance. We wonder if it is not possible that the old queen that you introduced was killed, or died, and the one you saw later had just hatched. Queens just hatched are sometimes very light.

Questions.—(1) How long will honey keep or preserve foods and fruits of different kinds? (2) Do you have to be overly careful to make air-tight?
New Jersey. Dr. H. T. Mason.

Answers.—(1) Honey when used in cakes and cookies keeps them moist for some time. In fact, we have known cookies kept over a year to be even better in flavor than when first made. The exact length of time they might be kept before becoming stale would depend upon the other ingredients, especially the kind of shortening and the amount of eggs used. (2) Any canned fruit having honey as an ingredient should be sealed just as tightly as tho the honey were not present.

Question.—I have been requested to ask you of the use of honey in sugar diabetes cases. Please explain why honey may be used instead of sugar.
California. A. S. Leins.

Answer.—Years ago, cases of diabetes were very rare; but, as the consumption of sugar continued to increase, this disease increased accordingly, until it has come to be the belief of many that an excessive use of sugar is a direct cause of the trouble. If people could be induced to use honey instead of sugar, the disease would doubtless diminish. However, after one already has diabetes, honey could not of course cure the disease. We know that many doctors recommend the use of honey instead of sugar in such cases. Honey is a predigested food and, therefore, does not overtax the digestive organs as does the sugar.

Question.—I note in the A B C and X Y Z of Bee Culture that it says a nucleus should be strong in bees when one puts the queen-cell in. Will you please advise me why they should be strong in bees? and will a strong one raise any better queen than a weak one? It seems to me that all the feed has been given the queen before the cell was capped, and just so there were enough bees to keep the cell warm enough to hatch that it would be all right.
Virginia. W. W. Likens.

Answer.—The nucleus may be small if there are enough bees to keep the queen-cells warm, and if the nucleus is not so small that it swarms.

ANSWER BY E. R. ROOT.

Question.—I am having a somewhat strange and unusual experience with some of my extracted honey this year. The honey of a particular season upon being extracted is more fluid than that of other seasons. When granulating it works itself out of the jars. These are not filled to the brim. When taken out of the hot water, after restoring to liquid form, it begins to foam if it is disturbed, but it becomes normal if left alone. For this reason, I have been having a little trouble with my customers. I would greatly appreciate your advice, Mr. Root, as to what the cause may be and what can be done about it.
Michigan. John P. Wenzel.

Answer.—It is apparent that the honey you secured this year was not thoroly ripened. The fact that it is "more fluid," and that it "works itself out of the jar" when granulating are both pretty good evidence that the honey in question was not thoroly ripened. The further fact, that it is inclined to foam after you liquefy it, is another evidence. If you heat it thoroly, not over 140 F., and then let it stand in open cans in a warm room it will thicken. In some parts of California honey behaved itself in that way last summer. The only thing to do in such cases is to heat the honey and then let it stand in open cans or open vats.

BEES, MEN AND THINGS

(You may find it here)

HONEY crop in this part of Idaho was as poor as one can expect in a dry season such as we had this year, and had it not been for sweet clover along the creek that I seeded two years ago I could not have taken off at all.—Mrs. Margaret Green, Washington County, Ida.

I hope you can give us some good recipes on how to make honey wine this year.—Louis Biediger, Medina County, Tex.

The so-called disappearing disease was very bad until about or near the close of the buckwheat bloom. The bees ran about in all directions and gathered in heaps and died by the thousands.—Elwood Bond, Monroe County, Pa.

It has been an unusually late fall here. Today, Nov. 4, the bees are bringing in pollen and honey from tobacco bloom. The honey is very dark, with good body and strong flavor.—Bernard Johnson, Campbell County, Va.

Geo. H. Rea has been very successful in getting sugar for the New York State beekeepers. He knew exactly what he wanted and went after it. He had the backing of a well-organized system of Farm Bureaus within the State who co-operated and did everything according to the program he laid out, and the result of it is highly gratifying.—J. G. Needham, Professor of Entomology and Limnology, Cornell University, Ithaca, N. Y.

Nelson W. Peck, a Yakima Valley beeman, paid $1.00 a minute for a 75-minute ride in an airplane for the purpose of picking out locations for his stands sufficiently removed from spray-poisoned orchards. He says he would have saved $10,000 if he had made such a flight a year ago, and he plans to make three more before finally placing all his bees. Peck lost 750 out of 1,000 colonies of bees last season from poisoning.—Washington Farmer, Spokane, Wash.

This is not a very big place—about the size of California. We have a total of about 100,000 colonies. We have a cooperative association to handle all the honey. This last season we exported $165,000 worth as well as supplying the local market. For the last two or three years conditions have not been normal at all here, as we have no boats to export our produce. Just now it is being got away rapidly.—T. J. Mannex, Waihou, Thames Valley, N. Z.

A judge in Thompson, Conn., the other day fined a man $50.00 and sentenced him to three months' imprisonment for stealing a hive of bees. The man who swiped the hive of bees might have got away with it perhaps, if, while he was lugging off the hive in the dark, his foot hadn't slipped, and he got a fall that wakened the bees so that they poured out and stung him on the face and hands so severely that the swelling betrayed him the next day, and he was arrested.—Boston Post.

An organization of Inland Empire apiarists to be known as the Inland Empire Beekeepers' Association and to hold its first meeting in Spokane the early part of next February is recommended in the report of the executive committee of the Northern Idaho Beekeepers' Association.—Spokane News Bureau.

We have inspected 700 more apiaries this year than last and many more thousand colonies. This has been accomplished with the same number of inspectors (four), and we conducted 16 beekeepers' tours in as many counties. Four to nine demonstration meetings were held daily with an average attendance of 24 beekeepers.—C. O. Yost, Marion County, Ind.

The farmers let their tobacco bloom late in the season for the first time I have ever known them to manage it this way. It is the richest honey plant I have ever seen. There were great drops of nectar in the bloom and the bees worked on it to beat anything I have ever seen. The blossom is trumpet-shape so the bees can get all of the nectar.—J. M. Venable, Surry County, N. C.

The Cascade Mountains divide Washington from north to south; and so far as conditions and climate are concerned it is the same as two separate States. The west side has never been considered much of a bee country. There are not more than a dozen commercial producers on that side, and none of them on anything like a large scale.—W. L. Cox, Chehalis County, Wash.

On page 588 J. E. Crane speaks of cleaning propolis from sections. Now, when I raise comb honey for the market I take my broken sections, that part with the beeway, and lay them on top of the sections in my super, exactly covering the beeway in the sections, and that stops the trouble from propolis. The sections will come off as clean as a pin.—L. E. Reed, Clay County, Kan.

I own three apiaries. In one, an Italian yard, there seems to be no let-up to drones even tho I deprive them of all unnecessary drone comb. Bees will draw worker-cells to drone dimensions any way. In another apiary it seems impossible to get enough drones, altho I have the bees draw out starters for drone comb. Neither locality nor honey flow seems to make the difference. I believe the difference is due to the strain, or

more properly the queen. On proper analysis I think most of our success and failures can be traced to the queen.—M. S. Phillippe, Imperial County, Calif.

Most of the commercial beekeepers of Vermont live within 20 miles of the west line of the State. In fact, the larger part live within 10 miles of Lake Champlain.—J. E. Crane, Addison County, Vt.

"The wings, therefore, are well adapted for producing sound waves corresponding in a way with our present-day wireless system of sending messages. * * * At the wireless receiving station are the antennæ which receive the vibrations and convey the impression to the brain."—Lawrence Bellman, Rock County, Wis.

Two sections of honey produced in my apiary in 1916 traveled 7,500 miles by parcel post and came thru the ordeal in perfect condition. The sections were sent Nov. 22, 1916, by our postmaster here to his nephew, Pte. W. T. Longfield, Imperial Mechanical Transport with the Salonika forces, and reached Pte. Longfield during the last week of January, 1917, thus being about two months on the way, and yet the sections were received in perfect order. They were packed together with canned goods, etc., in a tin pail, making up the regulation standard package. It seems to me that this is a record for long-distance shipping of comb honey.—Warren Sadler, Ontario, Can.

When a mere lad, with other youngsters I ransacked the third floor of a neighboring farm residence. The upper room of this large farmhouse had been fitted up for a honey-room and for bee supplies. The old hives and fixtures did not interest me; but what had been a complete copy of the A B C and X Y Z of Bee Culture did. The leaky roof had left the book without covers, and some leaves were missing; but I took the book home and read everything in it. That gave me the bee fever. Father purchased a colony simply to satisfy me. After re-reading that old book till it was all worn away, I decided as a child that "dad Root" was an ideal man, and I have never changed my mind all these years.—A. E. Trapp, Fergus County, Mont.

Altho I have "monkeyed" with bees about 12 years, this is the first year I have given up all other work and devoted my entire time to beekeeping. I gave up a position as traveling mechanical engineer for the largest firm in the United States manufacturing camera machinery. I have sold a little over $2,600 worth of light honey, and got some honey from buckwheat, so it looks as tho I should make good. I think young queens are one of the keynotes to success. They also aid materially in overcoming European foul brood. I had 34 cases of European foul brood, and succeeded in producing a fairly good crop from all of them but one. I purchased a dozen queens from each of four breeders, making 48 in all, and lost only one. That hive, I believe, had two queens. I transfer all queens from the mailing-cage to the Miller cage without attendants, clipping before introducing.—George Mack, Chautauqua County, N. Y.

I am quite sure that I am the only fellow in the United States who can produce a sample of pinkvine honey, and be sure about it. Of course, any one else could do the same in my part of Tampa if he tried. The honey is fine for brood-rearing, as the plant is a steady bloomer from spring till fall. One might easily believe some orange is blended with this pinkvine honey, as it very much resembles orange honey in thickness, flavor, and color. It is not an extra well-flavored honey; but as it has such a heavy body I believe it would be considered in the market as a first-class honey for Florida.—Perry W. Hayes, Hillsboro County, Fla.

Here is my way of introducing and requeening black and hybrid stock with virgin queens. During swarming time I have some virgins handy; and when a swarm comes out I put the swarm in a new hive, then go to the old hive and let one of the virgins run in at the entrance. The young queen kills the queen-cells in the old hive, and I have never had one of these virgins balled yet, and I am never bothered with second swarms. I notice in the October number an article by Jay Smith about safe introduction of queens. He says that about 50 per cent are lost in introducing. I have ordered queens for two years, and introduced in the mailing-cage and have not had one failure.—Leo Wardell, Anderson County, Texas.

During the holiday rush I worked as auxiliary clerk in the postoffice at Schenectady, N. Y., and there learned how parcel-post packages are taken care of. A great many packages that came in had been poorly wrapped by the sender, and consequently there was many an article which I rewrapped and stamped, "Received in bad condition at Schenectady, N. Y." With the great amount of parcel post, practically four-fifths is thrown from one place to another, as the method is so much quicker and easier than carrying to the spot needed. Knowing this, I believe that no extracted honey should be mailed in fiber or paper containers, and that all honey packed in tin pails should have covers of the push-in friction-top style, and these should be insured as well as crated, if for no other reason than that insured packages are, as a rule, better taken care of. The sender of an insured article is entitled to a return receipt from the person to whom it is sent, the same as the sender of a registered letter. By writing near the receiver's address the words "Return receipt requested," and notifying the carrier or postmaster that you wish a return card sent with each parcel you insure, you can take advantage of this benefit. Clarence Foote.

Schenectady County, N. Y.

JUST NEWS

Editors

THE Indiana State Beekeepers' Association will hold its annual meeting at the State House, Indianapolis, Dec. 18 and 19. This meeting promises to be the best one held in Indiana in years. B. F. Kindig, State Inspector of apiaries for Michigan, Jay Smith of Vincennes, and Prof. E. G. Baldwin of the U. S. Department of Agriculture are among those on the excellent program prepared.

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The Chicago Northwestern Beekeepers' Association will hold its annual meeting in Room 138, Great Northern Hotel, Chicago, Dec. 15 and 16. John C. Bull, Valparaiso, Ind., is secretary-treasurer.

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The time and place of the meeting of the Minnesota Beekeepers' Association has been changed. The meeting will be held Wednesday and Thursday, Dec. 31 and Jan. 1, at the at the University Farm, St. Paul.

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The Chenango County (New York) Beekeepers' Society will hold their second annual meeting at Norwich, N. Y., on Dec. 20. Geo. H. Rea, Extension Specialist in Apiculture, will be present and address the meeting.

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The American Association of Economic Entomologists will hold a convention at St. Louis beginning Dec. 29. Editor E. R. Root will appear on the program for the apicultural meetings, which will probably be held on Dec. 31.

* * *

A two-day convention of the Chemung County (N. Y.) Beekeepers' Association, in conjunction with the Chemung County Farm Bureau, is to be held at Elmira Dec. 11-12. Geo. H. Rea will be in charge of the demonstration work, and profitable results are certain.

* * *

At the last convention of the National Beekeepers' Association the officers of the organization were authorized to call a meeting of delegates from the various States to be held at Kansas City, Mo., during the coming winter. This meeting will be held Jan. 6-9, 1920, at the Muehlbach hotel. It is of extreme importance that every State beekeepers' organization arrange for the sending of one or more delegates to this convention.

* * *

The convention of the Ontario Beekeepers' Association which was held at Toronto, Nov. 11, 12, and 13, was an unusually enthusiastic gathering. The program as given in the last Gleanings proved very interesting, and a lively discussion followed each address. There were about 130 in attendance, many extensive beekeepers among the number. A few beekeepers from the United States were present, New York, Ohio, and Michigan being represented. A resolution was passed asking the provincial government for a $30,000 appropriation for fighting foul brood. W. W. Webster was elected president; A. McCavish, first vice-president; R. E. L. Harkness, second vice-president; and Prof. F. Eric Millen, secretary-treasurer.

* * *

The Adirondack Beekeepers' Association, A. W. Cary, president, and H. E. Gray, secretary-treasurer, has voted to affiliate with the New York State Association of Beekeepers' Societies, and elected the secretary as delegate to the winter meeting at Syracuse next February.

* * *

Florida has recently made very stringent rules in regard to disease. No hives or fixtures are to be moved into the State without a certificate stating them to be free of disease. All apiaries in which disease has appeared are to be strictly quarantined and no equipment moved from them unless properly disinfected as prescribed and approved by the plant commission. No queen bees and attendants are to be shipped within the State, unless accompanied by a certificate of the current year from an authorized inspector to the effect that the queens are free from disease, or a sworn statement by the queen-breeder that the honey used in the candy was diluted and boiled in a closed vessel.

* * *

The Wisconsin State Beekeepers' Association will hold its annual convention at Madison on Dec. 4 and 5. An exceptionally interesting program has been prepared. The morning session of the first day will be devoted to reports of committees and officers and to other business. At the first afternoon session Gus Dittmer, president of the Association, will deliver an address. Dean Russell of the College of Agriculture will speak on "The New Era in Beekeeping." Other speakers at this session are H. J. Rahmlow, A. C. Allen, and A. Swahm. A banquet will be held from 5:30 to 7:30 the first evening, followed by a session on foul brood, when the speakers will be S. B. Fracker, State Entomologist, H. L. McMurry, Deputy Inspector, and M. E. Eggers. The speakers at the morning session of the second day will be N. E. France, G. P. Norgord, Edward Hassinger, Kennith Hawkins, Miss Iona Fowls, H. L. McMurry, and L. C. Dadant. The afternoon session of the second day will be given up to business matters of the Association and the election of officers and appointment of standing committee.

Let your light so shine before men.—MATT. 5:16.
Cast thy bread upon the waters; for thou shalt find it after many days.—ECC. 11:1.
He which converteth the sinner from the error of his way shall save a soul from death, and shall hide a multitude of sins.—JAMES 5:20.

WHEN Vol. 1, No. 1 was put out 47 years ago, every little while there would be a call for a certain number, and I would be told it was "out." After that I said we would print enough so we could supply the demand and also have a few to give away. During these 47 years, every little while we have been bothered and worried because a certain edition was exhausted. Just a few days ago I wanted to present an article of importance to somebody who would probably fail to be convinced unless he saw the article in plain black and white. After ransacking the office I had to give it up; but I finally took one of our bound volumes and cut out two leaves, and asked to have them back again. We pasted them back where they belong, as well as we could. Now, in order to be sure we had enough, for a good many months we printed so many we had quite a few to spare, and these have been put away on labeled shelves for the whole 47 years. Of course they occupy considerable room, and many of them are lying there getting dusty, uncalled for, or mostly so, year after year. Once more we are crowded for space in the printing and binding departments. To get rid of the old journals, on page 702 of our last issue we advertised a full year, postpaid, for 50 cents. To illustrate the possible value of these old journals I want to give you two stories.

Years ago, while visiting a beekeeper in northern Wisconsin our host told me there was one man in his town who would be "overjoyed to meet A. I. Root." Now, do not think that I am boasting. Wait a little. This man was hired to make some hives. He carried his dinner; and after he had finished it he happened to notice a copy of Gleanings on his workbench. He became interested, read it all thru, and asked his employer if he could loan him some back numbers. He not only became interested in bees, but something I wrote in the Home papers reminded him that neither he nor his family were attending church or Sunday-school as they should do. He became a professing Christian, invited me to his home, gave me the family Bible, and asked me to make a selection and lead them in prayer. Some of you who have had a like experience can tell something of the joy and peace that thrilled my heart on my way home.

Once more: Away off in northern California I had some unpleasant experience in fixing up a business matter. In changing cars I got into a crowd where there was no place to sit down. A passenger said to me, "See here, stranger, you are older than I am. Take my seat." Pretty soon some one got up and then we were seated side by side. I had not gotten over being cross about things, and I did not want to talk with anybody; but *something*—I guess it was the "still small voice"—suggested that I was not "letting my light shine," and so I commenced to talk with my seatmate. He told me where he lived, and then, naturally, asked me where *I* came from. When told I lived in Ohio he asked if I had ever been near a place called Medina. Then I began to catch on to what might be coming. My friend went on to explain something as follows:

"Stranger, I had a long spell of sickness a while ago. When I was getting better I wanted something to read. A kind neighbor suggested he had some old bee journals up in his garret that he thought might interest me, and he brought them over. They were published by a man named A. I. Root, of Medina, Ohio, and I would give more to see that man than anybody else in the whole wide world. I wonder if you know him or have ever heard of him."

You can imagine how I mentally thanked God that I had resisted the temptation to keep still and not talk with anybody. His story was like the one before mentioned. Himself, his wife, and his family of children had become not only interested in bee culture but followers of the Lord Jesus Christ thru the influence of those old dusty bee journals stowed away in a garret* So far as I can recall, I had not at that time

*By the way, the above has happened not only once but several times. Again and again have kind friends written me about sending old bee journals that had, perhaps, lain for years in some garret, and being resurrected and bearing good fruit in the way I have suggested.

discovered that beautiful text in the last chapter of the book of James—the text I have repeated so much that I am almost afraid you are getting to be tired of it—"He which converteth the sinner from the error of his way shall save a soul from death, and shall hide a multitude of sins." Can you imagine what a visit we two had before we left that car?

Now, the younger members of the firm have several times said we should have to sell these old bee journals for paper-rags. When I think what they have done in times past, something tells me not to do it. The experiments I made in years past are valuable—yes, very valuable—as these journals contain records of those experiments. Just one illustration:

Years ago beekeepers were accused of feeding their bees sugar in order to enable them to "make honey" to be sold at many times the value of the sugar syrup. I protested; and finally, to convince the public, I fed a whole barrel of sugar in a few weeks to a single colony of bees. I induced them to store it in nice new combs and cap it over nicely. The result was not exactly sugar syrup, and it might have passed for very good honey. But my experiment with the barrel of sugar demonstrated that it could not be done profitably, and would not be done, no matter how great the difference between sugar and honey. The great trouble was, the bees had to be fed quite a lot before they would secrete wax; and in converting the sugar into wax, a great part of the sugar went somewhere. Others verified my experiment, and whoever undertook it dropped it because it did not pay, and the great wide world stopped accusing us of feeding sugar, or, worse yet, glucose, in order to get the bees to "make honey."

Now, to get rid of these old back numbers, and at the same time have them do good in some way or somewhere, anybody can have a full back year of single copies for 50 cents, which means 24 copies for the years from 1884 to 1916—so long as they last; and any single copies at 5 cents.

THE ELECTRIC WINDMILL AND THE CHICKEN BUSINESS.

(*See page 753, December, 1918.*)

In the *Rural New Yorker* for Oct. 25 there is quite an article commencing on the first page, entitled "Poultrymen Take to Artificial Lighting Like Ducks to Water"; and I think it will abundantly pay every chicken-man to send for that copy of the *Rural*, even if he does not subscribe for it. One of the main points brought out is this:

A laying hen, especially a laying Leghorn, can take only enough food at one time to last her ten or twelve hours, especially if she is to lay an egg every day. Well, up here in the cold North, especially when there are cold and cloudy days, the hens may go on the roost at four or five o'clock. And, by the way, we have been told over and over again that before said laying hen goes to roost she should have abundant good, nourishing food, so that she can climb up for the night with a *full crop,* for if the morning after is dark and cloudy during our short days and long nights, it may be 14 or 15 hours before she has a chance to get any more feed. The *Rural* says that after a hen has been on the roost about 10 hours she is suffering for a want of food, and therefore electric light or some other light should be turned on so that she will not be more than 10 hours without a chance to get food. It does not seem to make very much difference whether the light is put on in the morning or night, or both. If put on the night before, the hens ought to be able to take food, say up to about 9 o'clock. Let them sit up and scratch for feed until about that time. Then be sure that they have plenty of good food, on time, when they get off the roost in the morning.

Now, there have been objections made, that, if you make the hen lay at an unnatural time, say during November, December, and January, she can not keep up her laying in the spring months; and some agricultural papers have made this objection, and dropped it right there. Why, my good friends, even if this *were* true, just notice the difference in the price of eggs in any locality about Christmas time, and, say, May or June. Just now, Oct. 28, eggs are quoted in Cleveland at 75 to 80 cents a dozen retail, and I am told that in the city of New York they are $1.00.

Some of you may ask, "How about the windmill? What has that got to do with it? Why, my dear friends, it gives you the electricity to light your poultry houses at no expense at all after the equipment is up; and the whole outfit costs but little or no more than the Delco or similar outfits that are now to be found almost everywhere. All of these use kerosene or gasoline. The windmill uses only *wind* which goes to waste if you do not use it. With Delco and other outfits your engine wears out or needs expensive repairs in four or five years. The windmill, with its slow revolution of only 25 a minute, will stand a lifetime. The only expense that I know of so far is the rubber belt, and we can not tell just yet how long that will last.

There is one thing more. A tornado might probably blow it down, altho I have not heard of any such catastrophe as yet. My new windmill that has just been shipped cost $250. Of course there has to be a generator, switchboard, and a set of batteries. But these three items are just about the same that are needed for the Delco and similar outfits.

There are two more items that should be mentioned in connection with the windmill —the rubber belt, costing $18.00, and a tower to hold the windmill, costing about $75.00. Of course you would not put up an electric windmill expressly for the poultry-yard, unless, indeed, you are keeping chickens by the hundreds or thousands. But it begins to look just now as if every farm home as well as every village and city home will have to have electricity from some source.

While we are on this matter of windmills and electricity, see the clipping below which I take from the *Scientific American*:

WIND-DRIVEN DYNAMOS.

An account was recently given in *Ingenioren* by H. C. Vogt, of some experience of the utilization of wind power for driving dynamos. The mills described had sails 100 feet in diameter and an area of 3,930 square feet. With a mean wind velocity of 24 feet per second, 290 horse-power was obtained. Power is transmitted from the main shaft by a series of cog wheels with the spokes in tension; rope and chain gearing were found not to answer. By means of gearing, the speed of the main shaft, 12½ revolutions per minute, is increased to 1,500 revolutions per minute for the dynamo.

Two hundred and ninety horse power is certainly "going some." By the way, it took me some time to find out where it is that they have windmills 100 feet in diameter. Finally we wrote to N. W. Ayer & Son, of Philadelphia, who inform us as follows:

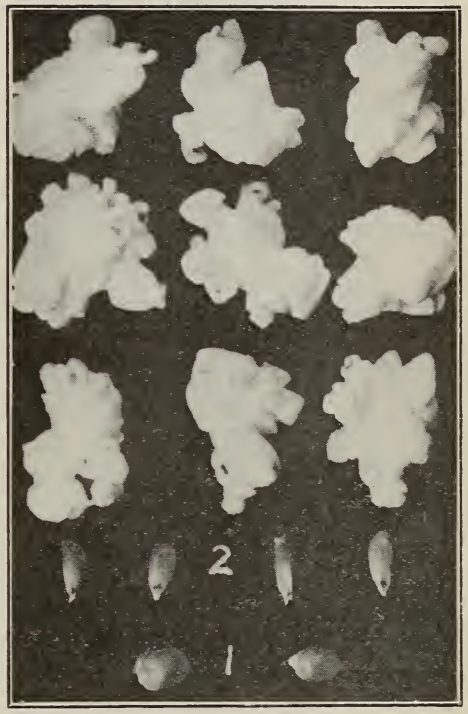
Ingenioren is a mechanical and engineering publication published in Copenhagen, Denmark.

From the above it seems that it is *Denmark* that is making such tremendous use of the wind for generating electricity. Now, they are certainly doing things there on a larger scale than the Wind Electric Corporation; but I think they will soon (if they have not already) get rid of their "cogwheels" and other like "contraptions," and use a simple rubber belt as we do.

BURBANK'S SORGHUM POPCORN.

On page 702, Gleanings for November, I made brief mention of this; but I omitted one particular point. The grains of this new popcorn are so small and needlelike that they bother us by slipping thru an ordinary corn-popper.

No. 1 shows ordinary grains of popcorn. No. 2 shows our Burbank sorghum popcorn, and the popped-out grains are shown above from the Burbank popcorn. When I came to see the way this corn pops out I uttered a shout. Why, it almost seems ridiculous to think the little slender grains close to Fig. 2 could pop out into the beautiful snowy grains above. Popcorn is a good and wholesome food; but who would have supposed, if he had not seen it, that such a large amount of rich nourishing food could be stored up in that little grain close



"Before, and after." Burbank's new popcorn.

to Fig. 2? After I had finished my picture, some one asked why I did not show the popped-out grains of No. 1. The fact is, I forgot it; but they were nothing near as large nor as white as the Burbank grains. So many of these little grains slip thru the corn-popper that one will have to get one of finer mesh or else use a sheetiron popper. We now pop our corn over a gas stove, and any kind of wire-cloth popper makes more or less litter. Perhaps a sheet-iron popper will be more tidy and cleanly where either gas or gasoline is used to do the popping. As I said in the November issue, any subscriber to Gleanings can have a few of the grains of sorghum popcorn by sending us a stamped addressed envelope.

Classified Advertisements

Notices will be inserted in these classified columns for 25 cents per line. Advertisements intended for this department cannot be less than two lines, and you must say you want your advertisement in the classified column or we will not be responsible for errors. Copy should be received by 15th of preceding month to insure insertion.

HONEY AND WAX FOR SALE

Beeswax bought and sold. Strohmeyer & Arpe Co., 139 Franklin St., New York.

FOR SALE.—Well-ripened clover honey in new 60-lb. cans. Geo. M. Sowarby, Cato, N. Y.

FOR SALE.—Heartsease honey in 60-lb. cans.
O. R. Carr, Avon, Ills.

FOR SALE.—Clover and buckwheat honey in any style containers (glass or tin). Let us quote you. The Deroy Taylor Co., Newark, N. Y.

FOR SALE.—Raspberry-milkweed honey in new 60-lb. cans (2 in case).
P. W. Sowinski, Bellaire, Mich.

FOR SALE.—Buckwheat honey, put up in 60-lb. cans, two per case.
H. B. Gable, Romulus, N. Y.

FOR SALE.—Well-ripened buckwheat honey in 60-lb. cans, 18c, f. o. b. Albany.
D. L. Woodward, Clarksville, N. Y.

FOR SALE.—Several tons of New York clover honey in new 60-lb. cans. For sample and price address John N. Demuth, Pembroke, N. Y.

FOR SALE.—Well-ripened clover honey in new 60-lb. cans, packed two in a case, at 25c per lb. f. o. b. shipping point. Sample on request.
Leland Farnsworth, Chief, R. F. D. No. 1, Mich.

FOR SALE.—Four tons choice clover honey, extra well ripened, packed in new 60-lb. tins, two in a case. Wish to sell in one lot.
Lee & Wallin, Brooksville, Ky.

FOR SALE.—Extracted honey, fine quality clover, 25c; clover and buckwheat mixed about half and half, 20c. Two 60-lb. cans to case, in 5-lb. pails, 3c a pound extra. Some buckwheat comb honey at $6.50 per case of 24 sections.
H. G. Quirin, Bellevue, Ohio.

FOR SALE.—Raspberry honey slightly mixed with goldenrod. Was all left on hives until thoroly ripened. It is thick, rich, delicious, none better; put up in 60-lb. cans. Price, $15.00 per can. Sample by mail for 20c which may be applied on order for honey.
John Hutchinson, Lake City, Mich.

FOR SALE.—Well-ripened clover honey in 60-lb. cans at 25c per pound, packed two in a case. This same grade of honey in five-pound friction-top pails, 12 pails in a case, at 27c per pound. Prices are f. o. b. shipping point. Sample mailed for 10c.
O. H. Schmidt, Bay City, R. F. D. No. 5, Mich.

FOR SALE.—Our crop of honey is now ready for shipment. It is a good grade white clover with a very small trace of basswood, almost water-white. It is put up in new 60-lb. tin cans, two to the case. This honey was all produced by ourselves above queen-excluders in nice white combs. Then combs were provided so that no honey was taken off until after the season when it was thoroly cured by the bees. It costs more to raise a crop of honey this way, as we do not get as much per colony; so we have to have a little more money for this fancy article than the ordinary honey on the market. Try a small order and we feel sure you will buy no other. We can furnish at the following prices f. o. b. Northstar, one 60-lb. can $15.50. In cases of two cans $30.00 a case in any sized orders. The crop is short this year, and will not last long at these prices. We feel quite sure that the price will not be any lower; so do not be disappointed by not ordering early if you are looking for honey as good as money can buy.
D. R. Townsend, Northstar, Mich.

E. D. Townsend & Sons, Northstar, Michigan, offer their 1919 crop of white clover and white clover and basswood blend of extracted honey for sale. This crop (it's only a half crop this year) was stored in nice white clean extracting combs that had NEVER had a particle of brood hatched from them. We had more of those extracting combs than we could possibly use this year, and we piled them on the swarms as needed. NOT A SINGLE OUNCE OF HONEY WAS EXTRACTED UNTIL SOME TIME AFTER THE CLOSE OF THE WHITE HONEY FLOW; consequently, NONE could be produced that will excel this crop of honey. Of course, it is put up in NEW 60-pound net tin cans, and they are cased up for shipment, two in a case. If you are one of those who buy "just ordinary" honey, at the lowest price possible, kindly do not write us about this lot of honey; but if you can and have customers who will want the very best and are willing to pay the price, order a small shipment of this fine honey as a sample, then you will know just what our honey is and whether it is worth the little extra price we ask for it or not. We quote you this fine honey, either clear clover, or that containing about 5 per cent of basswood—just enough basswood to give it that exquisite flavor relished by so many, at only 25c per pound on car here at Northstar. Kindly address, with remittance.
E. D. Townsend & Sons, Northstar, Mich.

HONEY AND WAX WANTED

WANTED.—Comb and extracted honey, car lots and less. Mail samples, quantity, and price.
W. Morris, Yonkers, N. Y.

WANTED.—Extracted honey, all kinds and grades for export purposes. Any quantity. Please send samples and quotations.
M. Betancourt, 59 Pearl St., New York City.

WANTED.—Extracted and comb honey. Carload or less quantities. Send particulars by mail and samples of extracted.
Hoffman & Hauck, Inc., Woodhaven, N. Y.

WANTED.—Extracted honey in both light and amber grades. Kindly send sample, tell how honey is put up and quote lowest cash price delivered in Preston. M. V. Facey, Preston, Minn.

WANTED.—White clover or light extracted honey. Send sample, state how honey is put up and lowest cash price delivered at Monroe. Also buy beeswax. E. B. Rosa, Monroe, Wisc.

BEESWAX WANTED.—During December I will pay 42c per lb. cash for average yellow beeswax, delivered here. State quantity and quality and await reply before shipping.
E. S. Robinson, Mayville, N. Y.

BEESWAX WANTED.—We are paying higher prices than usual for beeswax. Drop us a line and get our prices, either delivered at our station or your station as you choose. State how much you have and quality. Dadant & Sons, Hamilton, Illinois.

WE BUY HONEY AND BEESWAX.—Give us your best price delivered New York. On comb honey state quantity, quality, size, weight per section, and sections to a case. Extracted honey, quantity, how packed, and send samples. Charles Israel Bros. Co., 486 Canal St., New York, N. Y.

WANTED.—Beeswax. We will pay for average quality beeswax delivered at Medina, 40c cash, 42c trade. We will pay 1 and 2c extra for choice yellow. Be sure your shipment bears your name and address as shipper so we can identify it on arrival.
The A. I. Root Co., Medina, Ohio.